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THE  
NEW ENGLAND  
MEDICAL GAZETTE

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A Monthly Journal of  
Homoeopathic Medicine

*Editors*

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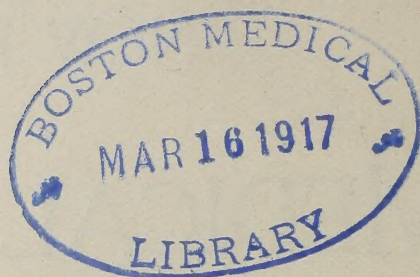
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*“Die Milde Macht Ist Gross”*

Volume L

BOSTON  
1915



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# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS.

### CÆSAREAN SECTION, WITH REPORT OF AN UNUSUAL CASE. \*

By CHARLES T. HOWARD, M.D., F.A.C.S., Boston.

For many, many years Cæsarean section was performed as an operation of necessity. When all other methods of delivery had failed, the abdomen was opened and the foetus removed. The mortality of both mothers and infants was enormously high and none but the most daring undertook it. Of late years the situation has markedly changed and today Cæsarean section is an operation of election, and is being performed much more frequently and for much broader indications than it was ten or even five years ago, and I fear at times without proper discrimination.

The time has come when each one of us must have definite convictions as to the safe limitations of this operation. I have tried to formulate the indications for my own guidance.

I have tabulated the cases in the Massachusetts Homœopathic Hospital since 1910.

In 1910 there was	1 case
In 1911	2 cases
In 1912	12 cases
In 1913	15 cases
In 1914 (to Oct. 31)	29 cases

The indications for operation were:

Contracted pelvis of one type or another, 35 cases. Of these three mothers died from peritonitis, one baby was stillborn, and five died while still in the hospital.

Placenta prævia, 9 cases. The mothers all lived and two of the babies were stillborn.

Eclampsia, 6 cases. Of these four mothers died, two babies were stillborn and one died later.

\* Read before the Boston District of the Massachusetts Homœopathic Medical Society, November, 1914.

It is only just to our statistics to say that three of the four who died were moribund and operated upon without any anæsthetic whatever. No thought was entertained of saving the mother, the baby alone being considered.

Toxæmias of pregnancy, 8 cases; of which one mother died from peritonitis, two babies were stillborn, and two died before leaving the hospital.

Fibroid of the uterus, 1 case: mother and baby both living.

The total mortality of these 59 cases has been 8 mothers, 7 babies stillborn, and 8 babies died in the hospital, a maternal mortality of 13.55 per cent. In order to arrive at just conclusions as to the risk of the operation I feel that we should eliminate the three moribund eclampsia cases. This makes a true mortality of the operation as 8.92 per cent, all from peritonitis.

It is a fact well recognized by all who have had much experience in this line of work that the mortality rate increases more or less in proportion to the length of the time that the woman has been in labor before operation. Our group of cases must consequently be considered an unfavorable series, inasmuch as the average duration of labor (taking all cases where the time was given on the labor sheet) prior to operation was 46 hours.

The statistics for the Boston Lying-In Hospital as given by Greene in the Boston Medical and Surgical Journal for July 30, 1914, were 231 Cæsarean sections, with a loss of 17 mothers, making a mortality of  $7\frac{1}{4}$  per cent. In the same article the statistics of the New York Lying-In are given as 352 cases, with death of 38 mothers: a little more than  $9\frac{1}{4}$  per cent.

I have given these statistics for the purpose of showing that the operation of Cæsarean section is not one to be advised lightly or one to be undertaken without positive ideas as to what cases should be so treated. I feel that unquestionably the operation has been performed many times when other methods would have been better and attended with less risk to the mother. In the enthusiasm of delivering a woman without pain in a most spectacular fashion we are apt to forget that the dangers of the operation are considerable. We must not ignore a mortality of approximately 8 per cent.

Now there are three conditions which today most generally are considered indications for Cæsarean section,—contracted pelvis, placenta prævia, and eclampsia. There are, of course, cases of fibroid or other tumors obstructing the outlet which call for Cæsarean section, but the three causes enumerated are the common ones.

In cases with a markedly contracted pelvis I think everyone

will agree that Cæsarean section is absolutely indicated. The question comes only in those cases where the contraction or deformity is slight and the possibility of spontaneous delivery has to be considered. Unfortunately, the practice of obstetrics is still an Art instead of a Science, and we have no way of determining the exact dimensions of the child's head in utero and deciding whether or not it is possible for it to be pushed through the bony canal of the pelvis. We must consequently rely upon as careful pelvic measurements as we can get, and in the light of past experience judge whether or not the patient can be delivered without too much traumatism. By the use of the high forceps, of course, many babies can be dragged through a comparatively small pelvis, but it is always attended with considerable danger to the mother and infant. Furthermore, we must consider the morbidity subsequent to a high forceps. Many a woman has awakened from the ether to find a dead baby and to discover later that she was a semi-invalid. Compare the after results of high forceps deliveries with the after results of Cæsarean section, and the balance is all in favor of the Cæsarean.

Placenta prævia.—For many years this complication has been the *bête noir* of the obstetrician. The centrally implanted cases have been treated by perforation of the placenta and version, bringing down a leg to cause pressure on the placenta and control hemorrhage, in the marginally implanted cases early rupture of the membranes and the introduction of a dilator bag to control the hemorrhage.

Now what are the indications for Cæsarean section in placenta prævia? I believe it to be in all cases of centrally implanted placenta, or where the placenta is so far over the os that the membranes cannot be reached easily to rupture and allow the pressure of the head or a dilating bag to control the bleeding. I believe it is still wise to follow the old line of treatment whenever it is possible to reach the membranes and to rupture them. All other cases are suitable for Cæsarean section. In cases treated by perforation of the placenta and version, the infant mortality is approximately 50 per cent. Under Cæsarean section the infant mortality drops to approximately 30 per cent and the maternal mortality to not over 5 per cent, in our hospital, zero, none of the nine mothers dying.

In considering the place of Cæsarean section in eclampsia and the toxæmias of pregnancy we enter upon ground which has been fiercely fought over for a number of years. Tonight I shall not enter into the discussion as to whether the expectant treatment in eclampsia as practised in the Rotunda at Dublin or the rapid delivery is the better. That topic in itself is sufficient for

jected to the test of 24 or 48 hours hard labor, then in such cases our results will be better.

In the toxæmias of pregnancy again we should strive to play the rôle of prophet and by careful watching anticipate the advent of eclampsia, waiting if the patient's condition justifies it, to as near term as possible and then rapidly and easily deliver by Cæsarean section before the onset of convulsions.

The same with cases of placenta prævia.

Thus the more it becomes an operation of election and less one of necessity the better will be the results both as regards mothers and infants.

Now in closing I wish to report to you what to me has been my most interesting case of Cæsarean.\*

Mrs. B.—was seen by me in consultation with Dr. Ham and Dr. Diehl, Sunday, Sept. 20, 1914. She gave the following history. At term with her first pregnancy. Had always been well. Began to menstruate at 14 and her periods had always been regular and accompanied with but little pain. Since carrying the child she had been well. Labor pains began Tuesday, Sept. 15, and had continued intermittently ever since,—five days. Pelvic measurements: Interspinous  $7\frac{1}{2}$ ", Intercrestal  $9\frac{1}{2}$ ", External conjugate 7". Vaginal examination showed a breech presentation not engaged in the brim, cervix dilated to about one finger. Abdominal inspection showed the most prominent part of the tumor to be above the level of the umbilicus, where on either side of the middle line was a distinct and prominent mass, looking much as if two foetal heads were forced close up to the abdominal wall. In view of the fact that she had a small, round pelvis and had been in labor five days an immediate Cæsarean was decided upon. On opening the abdomen a double uterus was disclosed to view, being a conventional heart shape. The question arose as to where we should incise the uterus. It was made in the median line and entered into a thick septum filled with large sinuses. The incision was then carried off to the right where we knew the baby was, and we came upon the membranes. The baby was delivered (a healthy  $7\frac{1}{2}$ -lb. girl). On exploration of the uterine cavity it was then found that there was a thick muscular septum approximately one and a half inches in thickness extending from the fundus down to about the level of the internal os. The cord was traced up around the septum into the left horn of the uterus and the placenta was there. So the foetus lay in an R.S.A. position in the right cornu of the uterus and the placenta was in the fundus of the left cornu, thus accounting for the appearance of the abdomen prior to operation. The placenta was delivered and the uterus sutured with interrupted sutures of No. 4 iodized catgut, placed

just at the margin of the peritoneal surface down to the endometrial layer, and this covered over with a Cushing suture of No. 2 plain catgut to bury the knots and make a smooth peritoneal surface. A dose of ergot was then administered and the abdominal wound closed in the usual way.

The patient made an uncomplicated convalescence except for an ileal stasis which is not unusual for cases of Cæsarean section and which yielded in about 24 hours to alum enemas and the hypodermic administration of eserine sulphate 1/150 gr. every three hours until gas was passed. She left the hospital October 6, in excellent condition, with a strong healthy baby, blessing Cæsarean section and gratefully remembering the relief it brought after five days of acute suffering.

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#### V. BEHRING'S METHOD OF ACTIVE IMMUNIZATION AGAINST DIPHTHERIA WITH A MIXTURE OF TOXIN AND ANTITOXIN.

##### A CRITICAL REVIEW OF THE LITERATURE.\*

From the Pharmacological Laboratory of the Evans Memorial.

By S. B. HOOKER, M.D.

The prevention of diphtheria is a problem which as yet has failed of solution. The closure of schools during epidemics, the isolation of patients, convalescents and carriers, careful disinfection, and the invocation of extensive medical and other aids,—despite the institution of these modern sanitary measures and the burdens which they necessarily impose on affected families,—the prophylaxis of diphtheria has met with barely noticeable, certainly not brilliant, success. In Berlin alone the number of diphtheria cases has risen from 2,997 in 1906 to 11,578 in 1911 and apparently is still upon the increase. The prophylactic use of antitoxin is neither extensive nor very successful because of the possible danger of anaphylaxis,—a danger which, however, is practically negligible,—and, because of the very brief duration of immunity which it confers. There is, then, sufficient evidence to prove the necessity of an efficient method of prophylaxis.

There is no doubt that antitoxin therapy in diphtheria has been in large measure the factor which has been responsible for the reduction in *mortality* during the past twenty years, and it is to the credit of its discoverer, v. Behring, that he has indefatigably continued this line of work and evolved a method which promises materially to reduce the *morbidity*. Briefly, the procedure consists in the injection of small fractions of 1 ccm. of toxin and antitoxin,

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\* Read before the Alethean Club, November 19, 1914.

in proportions such that the mixture is innocuous or very slightly toxic to guinea-pigs.

That mixtures of antisera and their antigens are capable of producing immunity in animals has been recognized for more than a decade. As early as 1902, Kretz<sup>14</sup> observed the paradoxical phenomenon that highly immune horses reacted with fever and abundant antitoxin production to a mixture of toxin-antitoxin which in a normal horse was non-toxic and resulted in no antitoxin formation worthy of note. During the same year Sobernheim<sup>26</sup> reported a new method of immunization against anthrax which was the injection of a mixture of anthrax-immune serum and anthrax bacilli. The immunity thus produced developed more rapidly and was of greater degree than that produced by the use of Pasteur's attenuated bacterial vaccines. Park,<sup>20</sup> in 1903, reported the successful use of toxin-antitoxin mixtures in the initial immunization of horses while by 1904 Schattenfroh and Grassberger<sup>22</sup> had applied the same principle in their studies on symptomatic anthrax.

The details of the immunifying mechanism of diphtheria toxin-antitoxin mixtures have gradually been worked out by Wernicke,<sup>29</sup> Anderson, v. Behring, Metchnikoff, Löwenstein, Brown and others, but especially by Theobald Smith.<sup>25</sup> Some of their findings which relate intimately to the question in hand will be considered here; the residual data will be discussed in connection with various phases and problems of the immunization of human beings. It has been found that mixtures are far more efficacious in the production of antitoxin than is the pure toxin alone. The immunity is quite high when supposedly neutral mixtures are used, but declines *pari passu* with the progressive addition of increments of antitoxin; with a large excess of antitoxin no immunizing response may be evoked. The active immunity resulting from a single injection may endure at a reasonably constant level for several years,—thus indicating that the initial stimulus is not a merely transitory impulse. Female guinea-pigs transmit to their progeny a passive immunity so considerable that it may be used as a fairly accurate index of the degree of active resistance which the mother possesses. This inherited immunity is only ephemeral, however, and usually vanishes in less than three months after birth. Male guinea-pigs do not transmit any actual passive immunity, although it is conceivable that an increased capacity of the young to produce antibodies may result as an inheritance from an immunized father. An interesting side-note as to the duration of passive immunity in infants is afforded by the researches of Karasawa and Schick,<sup>8</sup> who found that the antitoxin disappeared from the blood in about six weeks.

These results encouraged Smith, in 1907, to suggest the prophylactic immunization of children with toxin-antitoxin mixtures, but it was not until 1912 that v. Behring applied the method. The originality which v. Behring claims and which continental investigators ascribe to him, is based upon his observations on the action of toxin-antitoxin mixtures, not alone upon guinea-pigs as has previously been the rule, but in many different species of animals. He concludes, with justification, although contrary to the hitherto held opinion, that an absolute and irreversible neutralization of toxin by antitoxin *in vitro* is not possible. For instance, a mixture which is innocuous to a guinea-pig may excite a strong pyretic reaction in an ass; and the hyper-susceptibility of monkeys (*Macacus rhesus*) to such a mixture is especially marked. Two or three doses of 1 unit of toxin even when 40 units of antitoxin are used for neutralization may produce death in the monkey from subacute diphtheria intoxication; detoxication is finally accomplished by the addition of 80-100 antitoxin units. Fortunately human beings are much less sensitive.

v. Behring considers that the toxin-antitoxin complex in the body is of a reversible nature,—the union in the test-tube being an absorption phenomenon which takes place in accordance with the principles of colloidal chemistry,—and this view is held by many of the present leaders in biochemistry and immunology. The immunizing factor, then, is the toxin which is set

free within the body. Why a neutral mixture of toxin and antitoxin should possess a greater immunizing action than does the pure toxin alone has been explained by Smith as follows. Pure toxin is fixed by tissues chiefly at the point of injection except, of course, when introduced directly into the circulation; the toxin-antitoxin mixture, however, is disseminated quite generally through the body. The relatively small amount of free or perhaps dissociable toxin, by this diffusion tends to cause enhanced antibody formation over a large area. Instead of forcing the tissues around the point of deposition of the toxin to do all the work, reducing the avidity of toxin by partial saturation with antitoxin results in diffusion of the toxin, and antibody formation by the extensive coöperation of different tissues none of which is appreciably injured in the work. The facts that toxin-antitoxin mixtures injected *subcutaneously* and that pure toxin injected *intravenously* frequently produce paralysis by acting directly upon the nervous system, while the *subcutaneous* injection of pure toxin almost never produces paralysis, suggest the proof that the diffusion factor is the one which conditions the production of antibodies. It may well be that the knowledge of the paralyzing action of toxin-antitoxin mixtures has exercised a deterrent effect upon the investigation of their immunizing value for man, but as will be shown later no such untoward after-effect has been noted in the thousands of cases already treated.

v. Behring<sup>2</sup> first reported the results of this method as applied to human beings at the Kongress für innere Medizin held at Wiesbaden in April, 1913. Since that time there have appeared a goodly number of reports made by his associates and by independent workers which reveal a conspicuous unanimity of opinion in regard to its absolute harmlessness and its efficacy as an immunizing agent against diphtheria. In his first paper v. Behring outlined a number of problems which could only be solved by subsequent extensive investigations. These related to the size of the optimum dose, the number and route of injections as well as the intervals between, and the reactions following, injections, the antitoxin content of the blood, the effect upon carriers, etc., which will be taken up seriatim after analyzing the collected reports and opinions of those who have performed the immunizing experiments.

Hahn<sup>6</sup> found that antitoxin was produced in 36 out of 40 cases treated; 25 of these had natural antitoxin already present. He used subcutaneous and intramuscular routes; 9 subjects which received from 4 to 7 injections developed from 10 to 75 antitoxin units per ccm. of blood—an amount far in excess of that needed for protection. Zangemeister<sup>3</sup> immunized a few infants and their mothers and observed that the new-born are nearly a hundred times less susceptible to the vaccine than are adults. Kissling<sup>10</sup> published an admirably detailed report on 310 patients, mostly children who were suffering from scarlet fever, measles or pertussis, and who had all been dangerously exposed to diphtheria of high virulence. The malignity of the epidemic was evidenced by the severity of the cases and the fact that during ten months no less than 32 of the doctors and nurses in the hospital were attacked. Most of the latter, however, had but freshly come in contact with the disease and there-

fore probably had not previously become insensibly immunized—an important point which will be discussed later. Kissling's cases were injected with from 0.1 to 0.3 ccm. of  $\frac{\text{M. M. I.}}{5}$ —the M. M. I. being the designation applied to that mixture of toxin-antitoxin which is non-toxic to guinea-pigs. In 111 cases injected twice no diphtheria developed; 8 of the 199 individuals who received only one injection were attacked, 3 within nine days of the injection and 3 having clinically doubtful symptoms.

In five epidemics and one endemic in different villages where the mortality averaged 6.5 per cent., Hahn and Sommer<sup>7</sup> injected about 1,100 individuals. In 633 considered fully immunized, i. e., who had received three injections at two day intervals of  $\frac{0.1}{10}$ ,  $\frac{0.1}{5}$ ,  $\frac{0.1}{2}$  ccm. of M. M. II. (somewhat toxic to guinea-pigs), but two cases developed, one being very mild and the other showing no diphtheria bacilli. After the immunization began, there developed collectively 65 cases; 50 of these were in subjects who had received no prophylactic vaccination whatever, and 10 within ten days of the first injection, very probably before there had been time for the active production of sufficient antitoxin. These 10 cases all ran abortive courses however. The remaining 3 cases were among those classified as doubtfully and insufficiently immunized. Schreiber<sup>25</sup> reports the vaccination of 700 school children in which there developed 12 cases, 2 being moderately severe and the others very mild and abortive. The most recent report is that of Park,<sup>20</sup> who has used toxin-antitoxin in the active immunization of 158 scarlet fever patients. He used various mixtures, from 50 per cent. to 90 per cent. of the L+ dose of toxin added to 1 unit of antitoxin,\* and of these mixtures from 0.25 ccm. to 5 ccm. were injected. The results led Park to conclusions similar to those of other investigators although somewhat more cautious.

The number of treated cases so far published totals about 3,000, although painstaking observations have been made on only 1,000. It is worthy of note that following none of 7,000 injections has there been reported any manifestation of harm to the individual. This is undoubtedly in large measure due to the care with which v. Behring by animal experimentation has secured evidence, first of the non-paralyzing and practically non-toxic effect of the mixtures, and second, of their capability to produce antitoxin. The vaccine has been shown to possess indubitable immunizing properties and it is a justifiable expectation that by the regulated and exact use of the T-A method we may in time render diphtheria an exotic disease just as variola has become wherever vaccination has been carried out systematically by expert physicians. Happily we are not de-

\* The L+ dose of toxin is that amount which when mixed with 1 unit of antitoxin and injected subcutaneously will cause the death of a 250-gram guinea-pig in four to five days.

pendent solely, as was Jenner, upon crude, fortuitous, epidemiotherapeutic statistics for proof of the efficacy of the method, because there have been established precise indices of immunity by which can be determined not only the positivity or negativity of the results of treatment, but accurate quantitative calculations as well. These indices are, with reference to the measurement of the antitoxin content of the blood, the Römer<sup>21</sup> and the Schick<sup>17, 24</sup> reactions.

### Criteria of Efficiency.

Römer's method as applied to the determination of the amount of antitoxin in the blood, is that of injecting guinea-pigs intracutaneously with 0.1 ccm. of different dilutions of the unknown serum mixed with a certain amount of toxin. This amount of toxin is such as will, when injected in the same manner with a definite fraction of a unit of standard antitoxin, just produce noticeable necrosis of the superficial layer of skin by the fourth or fifth day. (Limes-necrosis dose.) From the grades of reaction produced by the mixture of this known amount of toxin with the unknown serum in graded dilutions, the amount of antitoxin in the latter can readily be calculated. Römer claims that  $\frac{1}{40000}$  unit can be recognized in this way. Park, on the other hand, states that it is impossible to detect less than  $\frac{1}{160}$  unit. However, for practical purposes it is rarely necessary to test for less than  $\frac{1}{100}$  unit, hence the method furnishes an extremely valuable criterion as regards the control of prophylactic treatment for diphtheria.

The Schick test, somewhat similar, consists in the intracutaneous injection, into the human subject, of  $\frac{1}{50}$  of the minimal fatal dose of pure toxin contained in a volume of 0.1 ccm. A positive reaction—redness and slight infiltration at the site of injection, appearing in 24 to 48 hours and leading to a fading brownish pigmentation,—is a manifestation of the local irritative property of the toxin, and indicates the presence either of no antitoxin or an amount less than  $\frac{1}{80}$  unit per ccm. of blood. A negative reaction is generally accepted to mean that there is over  $\frac{1}{80}$  unit present and that the subject is immune to diphtheria. This test as used is not so delicately quantitative<sup>15</sup> as Römer's but is of value in eliminating the necessity of immunizing a large percentage of those exposed to infection. Early researches showed that antitoxin production reached a protective height in about 21 days. With modification in dosage and methods of administration that height may sometimes be attained in 8 or 10 days; 14 days may be taken as a fair average.

It would naturally be expected that the amount of antitoxin in an individual is the factor which conditions his resistivity or his

susceptibility to infection with diphtheria. All the evidence so far collated substantiates the validity of the assumption that a moderate production of antitoxin protects against infection. The amount produced in consequence of injection of the vaccine seems to parallel the resisting powers and to decline as they run out. Direct proof of this assumption can only be secured by a comparison of the numbers of immunized and non-immunized subjects who contract the disease during a period of time considerably longer than has elapsed since the introduction of the vaccine. Indirect evidence, however, is derived from the observations of Hahn, Otto and others, that persons who contract the disease possess insignificant amounts of natural antitoxin; this fact likewise holds true in those who sustain repeated attacks.

In considering the question as to how much autogenous antitoxin is sufficient to protect against an ordinary infection with diphtheria, it may be stated at the outset that it is wholly unnecessary to force the immunization to the individual's limit of productivity of antitoxin. None of the investigators urges the need of accumulating more than 0.1 unit per ccm. of blood; many agree that 0.05 unit is enough, while v. Behring considers that even 0.01 unit is sufficient to give protection under ordinary circumstances of health. He reaches this conclusion from results obtained by passive immunization with antitoxin. Children of 25 kilos who receive 100 units show an immediate maximum titre of about 0.1 unit per ccm. of blood; this falls in ten days to slightly less than 0.01 unit, and the immunity ceases at about this time. Kleinschmidt and Viereck<sup>12</sup> report never having seen diphtheria develop in exposed subjects possessing an antitoxin titre of 0.05 unit or more, and their estimate that this amount, which is almost always secured by two prophylactic injections, is probably the safest one to follow. Massive virulent infections, occurring when susceptibility is possibly heightened by other diseases, may break down this resistance. v. Behring claims that fever causes increased destruction and elimination of antitoxin. Park in reporting his series of scarlet fever patients makes no mention of any cases of diphtheria occurring subsequent to successful active immunization, although he does state that 20 per cent. of those in which less than 0.033 unit was formed—Schick reaction positive—did contract the disease. In Kissling's scarlet fever series five cases developed among the 89 who received one injection, and no case in the 109 who received two doses. Neither did diphtheria develop in any of the 32 immunized cases suffering with measles; this fact tends to substantiate Karasawa's and Schick's<sup>8</sup> findings that the antitoxin content remains unchanged throughout the course of measles.

### Dosage and Reaction.

The matter of dosage is also in a somewhat unsettled condition because different sized doses as well as different methods and intervals of administration have been employed by the various investigators with the result that exact comparableness of findings is not yet possible. v. Behring insists that susceptibility is not a haphazard matter of individual response but is subject to laws almost mathematical in their precision. A certain dose of diphtheria toxin calls forth certain phenomena in a normal guinea-pig of a certain weight; if a tumor or pregnancy increases the bulk of the animal, in proportion to this increased weight it becomes less susceptible to the toxin. Although weight is only one of a complexity of factors, he is confident that we may yet discover a similar normal standard of susceptibility and thus be able accurately to apply the necessary dosage.

Certain experimental observations made by Südmersen and Glenny,<sup>28</sup> Brown<sup>5</sup> and others,<sup>18</sup> upon the immunizing effect on guinea-pigs of small doses of diphtheria toxin should be taken under advisement in this connection. They were able to demonstrate that the use of doses which produce profound general and local reactions, or by injecting before the pig recovers from the previous dose of toxin, there results serious interference with the progress of immunization. Contrarily, when perfect toleration is secured by the use of small enough doses, the formation of antitoxin proceeds without hindrance. Löwenstein,<sup>16</sup> from a long and varied series of experiments upon rabbits, concludes that under-neutralized mixtures are no better than neutralized mixtures and that it takes longer to raise the resistance when a vaccine containing an excess of toxin is used.

Upon the size of the dose depends the intensity of the reaction. An examination of Smith's protocols of guinea-pig experiments does not reveal the existence of any direct relation between the reactions or the amount of free toxin in the mixture and the degree of passive immunity which was transmitted to the progeny; in the human subject, however, antitoxin production does seem to vary directly with the severity of the reaction. The reaction varies not only with the size of the dose but also with the route of administration and with the degree of previous sensitization toward the products of diphtheria bacilli. In equal dosage the intracutaneous injection gives rise to a more intense reaction than does the subcutaneous. Kissling, Hahn and Sommer, Kleinschmidt and Viereck, and Schreiber recommend the intracutaneous route exclusively, while v. Behring and Bauer favor the subcutis. Nearly every experimenter remarks that the amount of antitoxin produced seems to be directly proportionate to the intensity of the local reaction.

This is probably true in most cases and especially in those persons who already have some natural antitoxin but there are a few exceptions. Kassowitz and Schick<sup>9</sup> studied the comparative effects of different mixtures of toxin-antitoxin when injected intracutaneously in guinea-pigs and in human beings. Their findings were correspondent in all but 10 per cent. in which there was discovered a hypersensitiveness to the mixture on the part of older children, especially young adult females. They suggest that this susceptibility may be due, first to an idiosyncrasy to a protein substance in the toxin—a substance which operates even after the total inactivation of the toxin by boiling; or second, the dissociation of the mixture within the tissues, or third, sensitiveness to horse-serum as such. v. Behring<sup>4</sup> makes the more practical observation that a non-specific hypersusceptibility is frequently exhibited by tuberculous patients and leads to an intense local reaction and swelling of the proximate lymph-glands. This condition merits careful attention in reference to prophylactic vaccination against diphtheria because a positive reaction in these cases is not necessarily a sign of antibody production in adequate amounts for protection. Hence, for the purpose of a statistical investigation designed to show the protective action of the vaccine, Behring prefers to have the lymphatic constitution regarded as a contraindication for his method. He also would leave out results on atrophic children and infants under nine months old. We may conclude that the intensity of the local reaction is not in all cases an exact criterion of antitoxin production, but that with certain precautions it may serve as a practical guide. Particularly is it of value in subjects who already possess a small amount of antitoxin; in these, one reaction of the second grade almost invariably betokens the elaboration of a sufficient amount of antitoxin to protect again an ordinary epidemic infection.

Physicians and nurses who have much to do with diphtheria are usually found to possess exceptionally high antitoxin titres. So far as we know, antitoxin develops only in response to diphtheric infection. Otto<sup>19</sup> has demonstrated that a single attack of diphtheria does not cause the production of a large amount of antitoxin and he postulates that when there is no history of diphtheria the immune must have been subjected to repeated minute infections which have passed over with minimal or misinterpreted symptoms. This hypothesis is borne out by the high antitoxin coefficients—even 2 or 3 units per ccm.—found in sera at the time and after the bacilli have been found in carriers. Those who, without having had the disease, have been in close contact with it, usually show more than .01 unit: of six nurses who possessed less than that titre, two were attacked soon after being put on duty in

diphtheria wards. Kissling reports an instance of one interne, who had only .005 unit at first, but after two months' service on the ward had .01 unit, and one treatment with the vaccine raised this amount to .05 unit. Kissling himself, who came less intimately and for shorter periods in contact with the cases, doubled his titre in less than two months without recourse to the vaccine. The development of immunity is of course much safer and more exact by the use of the T.-A. vaccine than by mere exposure to infection.

It is these subjects with natural antitoxin in which the vaccine produces the stronger reaction both as regards the local effect and the formation of more antitoxin. This is explicable on the ground that the process of active immunization leads to a changed sensitiveness to the immunifying agent. Curiously enough this sensitiveness is concealed when pure toxin is injected but manifests itself upon the introduction of T.-A. mixtures.

The earlier workers followed no definite plan in the matter of intervals between doses. v. Behring has recently favored the giving of the second dose only after ten to fourteen days, since experience has shown that sensitization usually reaches an effective height only after this period. If the subject has been perviously sensitized he thinks that one injection is sufficient. As one means of determining previous sensitization the intracutaneous injection offers a safe and fairly reliable index. The reaction here is more easily judged than in the subcutaneous method where the thickness and condition of the skin and subcutis oppose obstacles to correct interpretations. Which method is the more effectual for immunizing purposes has not yet been decided. If rapidity of absorption and slight reaction are the important factors, the subcutaneous route would seem preferable. On the other hand, if antitoxin formation is dependent more upon gradual dissemination of the mixture and the intensity of the local reaction, the intradermal method should be the one of election.

The grades of intracutaneous reactions have been formulated by Kleinschmidt and Viereck as follows:

1. Redness and infiltration 1 cm. to 2 cm. in diameter, lasting 2 or 3 days, with slight discoloration for a few days more.
2. More extensive redness and infiltration, over 2 cm. in diameter, lasting several days, moderate pain on pressure and subsequent mild scaling of the skin.
3. As above with painful, swollen lymph-glands.
4. Mild febrile phenomena with headache, anorexia and lassitude. Reactions of the third and fourth degrees are regarded as undesirable and may be avoided by the employment of a small intracutaneous trial test as mentioned above. The second grade

is held to be the most favorable indication of the immunizing efficacy of the injection.

It is apparent that no definite rule can be given at this time in regard to the size of the dose, since there are so many factors which bear upon it. Probably small fractions of 1 ccm. of a neutral mixture are sufficient for prophylactic purposes.

From curve measurements made upon treated cases and upon animals v. Behring has calculated that an efficient immunity as judged by antitoxin titre endures probably about two years. Park considers that this comparatively short period will limit the usefulness of the method, but it is well to keep in mind that the body reacts very rapidly and effectively to a stimulus which has once made it sensitive; this training of the body cells in all likelihood is one of the chief advantages of active immunization.

#### **Homogenous Immune Serum.**

Another tentative object which v. Behring has in mind is the production of an anthropogenous serum which may be used for prophylactic and curative purposes. That some individuals are highly productive of antitoxin is shown by the record case of Mathes in which 600,000 units were formed. Research on horses, cattle and goats has shown the far greater permanency of the passive immunity when the antitoxin is homologous, i. e., derived from the same species to which the injected animal belongs. Observation of a child treated with homogenous serum showed that the gradual decline in antitoxin titre almost exactly paralleled that of a child who had been actively immunized. The more fugitive duration of the immunity which is conferred by heterogenous serum is due probably to the development by the body of a ferment which is destructive to this blood-foreign proteid, the antitoxin being coincidentally broken up.

In cases which had received antitoxin immediately previous or subsequent to the use of T.-A. mixtures there has seemed to be an increase in the active production of antitoxin. Although, for a final statement on this point too few cases have been thus treated we have at least no reason to see in active immunization any contraindication to the use of the curative serum. Neither has there been the least suggestion of a negative phase. In fact all the cases reported, in which diphtheria developed within a few days after the first injection, ran an extraordinarily mild and favorable course. The use of serum-sensitized bacterial vaccine is also said to produce no negative phase.

#### **Carriers.**

It was also hoped by v. Behring that his method would exercise a favorable influence upon diphtheria carriers. The results

so far have been wholly negative. Bauer<sup>1</sup> had 10 treated carriers under observation for five months. None was freed from the bacteria although all the antitoxin contents were high; also, even though kept in the diphtheria wards, none developed diphtheria. It has been suggested that the additional use of a bacterial vaccine might be of assistance in destroying the carrier condition, but Kolmer<sup>13</sup> in 24 cases was generally unsuccessful in using killed diphtheria bacilli as a vaccine. Kolmer has found a specific complement binding substance in antitoxin serum, which, however, he is practically certain is not a bacterial amboceptor. It bears no direct quantitative relation to the amount of antitoxin present. He also demonstrated the presence of immune opsonins in the serum which do bear a direct relation to the antitoxin content. He suggests that the patient may be aided in getting rid of the bacilli by these immune opsonins introduced in the antitoxic serum, although he met with no success with his bacterial vaccine. The carrier question still remains unsettled.

### Summary.

The important facts revealed by this survey of the literature are the harmlessness of the method, the ease and comparative rapidity with which the formation of autogenous antitoxin can be effected, and the importance and necessity of further study along this line.

It is undeniable that the medical profession evinces an all too robust propensity to rush its therapeutic procedures far beyond the stage which is justified by the previous ascertainment of data by exact and laborious experiment. It is v. Behring's firm stand against this headlong, empiric, seemingly inherent tendency, which makes his attitude most commendable and worthy of emulation. Recognizing the pre-eminent importance of exact quantitative studies, he insists that it is not at present the large number of cases treated which will demonstrate the efficacy of the remedy, but it is the precision with which investigations are made in regard to the dose, its repetition, the method of administration, the reaction, the quantitative production of antitoxin, and the duration of resistance in each individual case.

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### CONVULSIONS IN INFANCY.

By C. SIGMUND RAUE, M.D., Professor of Pediatrics, Hahnemann Medical College, Philadelphia, Pa.

The cause of general convulsions in infancy is looked upon in the majority of instances as being "idiopathic." The abnormal tendency which infants show to convulsions has been ascribed to instability of the motor centres in the cortex of the brain, due to a lack of development of the inhibitory centres. This explanation has been generally accepted until recently. We are now, however, obliged to take a different view of this matter, since the new facts that have been brought out by advanced physiologic studies, especially in the domain of the metabolism of the mineral salts, offer a more definite knowledge of the etiology of convulsions. The role of certain internal secretions in the metabolism of the mineral salts also has a direct connection with the convulsive tendency.

The immediate cause of general convulsions is cortical irritation in the majority of instances. There is no doubt, however, that certain children will react with a convulsion to a stimulus which in other children would fall short of precipitating such an attack. A strong peripheral irritation may let loose a convulsion in those predisposed. True pathologic lesions causing convulsions during childhood are meningitis, encephalitis, cortical hemorrhagic lesions, embolism and thrombosis. They may occur during the acute infectious diseases or as a complication of endocarditis. A predisposition to convulsions is very likely unnecessary with such gross lesions. The hemorrhage over the brain cortex resulting from difficult labor or from forceps injury is due to rupture of fine blood vessels in the pia mater (pial hemorrhage).

General convulsions may also be toxic in origin, the convulsion ushering in one of the acute infectious diseases.

The so-called idiopathic convulsions of infancy occur in a child that shows no evidence of a brain lesion or of an acute infectious disease. There may be the history of an attack of acute indigestion preceding the attack, or the child may be teething, but these disturbances hardly justify the development of convulsions. Fever is usually slight or altogether wanting. The nutrition, however, is usually found to be below par, or signs of rickets may be present. Furthermore, a careful examination of the child's nervous system will reveal a generally heightened irritability of the motor nerves and perhaps a latent tetany. Attacks of laryngismus stridulus may also be noted in the previous history of the case. The increased electrical irritability of the motor nerves, and the presence of Chvostek's sign and Trousseau's phenomenon reveal the latent tetany.

Epilepsy may begin in infancy, and convulsions at this time of life may therefore indicate the onset of epilepsy. Such an occurrence, however, is exceedingly rare. The majority of cases of epilepsy begin in later childhood or in early adult life.

I shall confine my discussion mainly to the role played by the mineral salts in disturbances of the nervous system. Briefly stated we may say that the salts of the monovalent elements, mainly potassium and sodium, exert a stimulating and exciting effect upon the protoplasm of the nerve cell, while the divalent elements, calcium and magnesium, exert a sedative, or inhibitory effect. The importance of sodium chloride for maintaining the heart beat illustrates one of the actions of this salt. A remarkable fact which has been discovered in experimental studies with the salts is that a solution containing a single salt may be toxic, while a combination of salts will prove to be non-toxic. Thus sodium chloride alone will destroy certain forms of marine animals, while the addition of potassium and calcium overcomes this toxic effect.

This fact explains why Ringer's solution, which contains sodium, potassium, and calcium, will keep a frog's heart beating longer than normal salt solution. It has been stated that were it not for the calcium in our blood our muscles would be in a constant state of contraction.

The abnormal irritability of the cerebral cortex of an infant's brain, therefore, in the absence of a pathologic lesion such as a pial hemorrhage or a meningitis, can very logically be attributed to some disturbance in the balance of the mineral salts. We are justified in accepting this view not only from the clinical observation of these children but also on the grounds of certain patho-

logic studies. A deficiency of calcium in the brains of these children has actually been demonstrated.

The primary cause of the disturbed calcium metabolism may be a deficiency of calcium in the food; even breast milk may be deficient in this element. More frequently, however, it is due to an increased excretion of calcium chiefly through the intestinal tract, resulting from improper feeding (*Milchnährschaden*, as Czerny calls it). The frequent occurrence of convulsions in infants suffering from intestinal disorders and from rickets is thus made clear.

## TWO CASES OF POISONING BY CASTOR BEANS.

By ANNA D. VARNER, M.D., Wilkesburg, Pa.

The castor oil plant is a native of India and North Africa. It is cultivated largely in the West Indies and the United States. It attains the character of a tree in its native land, but in this country only grows to be five or six feet high.

The fruit is a roundish glaucous capsule with three projecting sides covered with rough spines and divided into three cells, each containing one seed which is expelled by bursting the capsule. The flowers appear in July, and the seeds ripen successively in August and September. A decoction or poultice of the leaves is sometimes used as a local galactagogue, and an infusion has been given internally for the same purpose.

The seeds are about as large as a small bean, oval, compressed, obtuse at the extremities, very smooth and shining, and of a grayish-white color, marbled with reddish-brown spots and veins. The seeds easily become rancid and are then unfit for the extraction of the oil, which is acrid and irritating. Taken internally the seeds are powerfully cathartic and often emetic, three having been known to produce fatal gastro-enteritis in an adult. The active principle, which pervades the whole kernel, is volatile, and is an enzyme called ricin. It is neutral in reaction, and a violent poison.

Castor oil is obtained by expression. The capsule is removed, the seeds cleansed from dust, submitted to a gentle heat, then introduced into a powerful hydraulic press. The whitish, oily liquid obtained is boiled in a considerable quantity of water and the impurities skimmed off. As they rise, a clear oil is left on top of the water. This oil is removed and again boiled with a small quantity of water until aqueous vapor ceases to rise. This last process clarifies the oil and renders it non-poisonous by driving off the acrid volatile matter.

This information we have derived from the American Pharmacopœa.

In "Clark's *Materia Medica*" we find an account of the drug ricinus, the tincture of which is made from the fresh castor oil plant, while the trituration is made from the fresh seeds. The symptoms he records are as follows:—

Vertigo, brain exhaustion, severe, sudden occipital pain extending around to the back of the ears, eyes and forehead, with rush of blood to head. Conjunctivæ injected, copious lacrymation, eyes convulsed and turned up, pupils moderately contracted. Buzzing and humming in the ears.

Face is pale, features contracted, drawn with twitchings of the mouth. The tongue is coated white and is dry, and there is burning pain in the throat. Anorexia with great thirst, burning in the stomach, pyrosis, nausea and persistent, painless, profuse vomiting of a watery liquid slightly colored by bile, and containing a few mucous threads in suspension. Pit of stomach sensitive, with burning in stomach, and pains radiating from the center to umbilicus, and hypochondria. Sensation of the weight of a bar across the stomach.

Rumbling in the abdomen, with contraction of the recti muscles. Colic, with a feeling as though the intestines were violently drawn together. Incessant diarrhœa, with purging. Stools are of serous liquid mixed with mucus or blood. Rice-water stools with cramps and chilliness.

Complete anuria, or urine scanty, dark, thick, highly albuminous.

In women the menses are early and excessive and they suffer from leucorrhœa. The mammary glands are thick, with swelling in the axillæ, and pains running down arms. Thin discharge from breasts which becomes milky; brings milk into breast of virgins and women who have not nursed their children for years.

The pulse is very rapid, small and scarcely perceptible, or weak and not increased in frequency.

Pains in back like afterpains.

The patient is pale and listless, with anæmia, profound adynamia, collapse, convulsions, muscular contractions, and very painful cramps in trunk and limbs.

There is pronounced jaundice of the skin, with prurigo on wrists and bends of knees.

Great drowsiness, chilliness, free perspiration, limbs cool and moist, forehead covered with cold sweat.

The castor oil plant is used as an ornamental plant in this State, yet very few people even among physicians and druggists are aware of the poisonous qualities of the seeds.

Within two years I have had three cases of poisoning, one of which proved almost fatal, and it was while searching desperately for an antidote, of which there are none given, that I obtained knowledge in regard to ricinus.

Two children, aged 5 and 3, ate several seeds each at 10 a.m. The family felt no alarm until four hours later they began to vomit, continuing to do so almost incessantly for six hours. The substance vomited was thin, watery, foamy, slightly discolored yellow, with the odor of green willow, and contained some thin glairy mucus. The children were lying on the same bed with a large washbowl between them, and when one was not using it the other was. There seemed to be no retching or nausea. The attacks were sudden, violent, over quickly only to begin again. During the intervals, which were of only a few minutes duration, the patients lay listless, clear mentally, but too exhausted to give attention to anything. Their faces were pale and bathed in cold perspiration. Pulse in each case was thin and thready. They complained of thirst and some pain or distress in epigastrium. After vomiting for about four hours they began to have frequent watery, painless evacuations from the bowels, purging and vomiting at the same time. The vomiting ceased at 8 p.m., and the diarrhoea after midnight.

The following day the older child brightened up, took a little food and from then on rapidly recovered. However, during the following three months she had occasional attacks when she vomited a yellowish watery substance with the characteristic odor of green willow.

The other child lay limp and lifeless for three days, refusing all food after which he began to improve and made a slow recovery.

After consulting in vain books, druggists, and physicians, for an antidote I prescribed arsenicum. In the meanwhile we called in the oldest alloëopathic physician in town, thinking he might have had some experience in the matter. He wrote a prescription the substance of which was bismuth. We gave two doses, which were promptly ejected from the stomach, then we went back to the arsenicum 200th potency, giving it in drop doses on the tongue until we began to get results. Veratrum might also be thought of as an antidote.

Last winter I was called early one morning to see a young woman who was vomiting violently and frequently. A thorough examination and questioning as to diet revealed no cause for the trouble. She seemed puzzled herself as she had never vomited in her life and had retired the night before in perfect health. While waiting for a glass of water in which to prepare the medicine, I

noticed a small box on the table containing moss, cotton pods, and other things which she had received from Florida the day before. She remarked that there were some nuts in the bottom, and she had eaten one the night before. Now *what* she ate was one castor oil bean. That was at 12 p.m. At 3 a.m., she was awakened with a sudden desire to vomit. She had no pain, no headache, no nausea. She first ejected the contents of the stomach and later a yellowish, watery, bitter, slimy fluid, repeating the act every fifteen minutes, and feeling no discomfort in the meantime. Gradually languor and weakness overcame her, her face was pallid, her body covered with cold sweat. At 6 a.m., she began purging and vomiting simultaneously. Her stools were frequent, painless and like rice-water. The urine was dark and scanty, her pulse was weak and thready, and she craved water, which she could not take. I prescribed arsenicum which relieved her symptoms in a short time, though she suffered from exhaustion for a day or so afterwards. The first food which she retained on her stomach was very small quantities of hot milk well salted. She craved salt especially.

Physiologically, therefore, ricinus has a profound action on the gastro-intestinal tract, causing an inflammatory condition, and pouring out a profuse serous exudate. Consequently in potentized form it should be as valuable a remedy as either veratrum alb. or arsenicum in cholera infantum or gastro-enteritis.

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### THE INFECTED GALL BLADDER; ITS INFLUENCE.

By A. R. GRANT, M.D., Utica, N. Y.

Briefly stated, the function of the gall bladder is to relieve undue distension of the bile and pancreatic ducts when for any cause obstruction exists at the intestinal orifice of the common bile duct. It is therefore a valuable organ and its integrity and freedom from disease is to be preserved.

Many competent observers believe that cholecystitis is in the large majority of instances caused by infection from the intestine via the common duct, but in a minority of instances by the passage of bacteria to the liver via the portal vein, and thence to the ducts. The first time a gall bladder has been so infected, symptoms of painful distension occur, accompanied by loss of appetite and fever; these symptoms last for three days and subside, leaving a jaundice more or less marked.

The writer believes that these infections of the gall bladder which are the exciting causes of gallstones occur in youth and especially about the twentieth year.

Aschoff believes that the pure cholesterin stones arise under the influence of disturbed metabolism of *obstruction*; that would explain the so-called "catarrhal jaundice" cases accompanying acute enteritis in young people; and that the bilirubin calcium type of stone originates from the decomposition of gall caused by the secretion and exudate which results from the inflammation of the gall bladder wall: this class would include the gall bladder infections following the fevers and pregnancy.

If the gall stones develop in the infected gall bladder, the effect upon the digestion of the individual may be so gradual and so mild that he may never realize that he is not as normal as anyone.

Introducing the subject of symptomatology of cholecystitis and cholelithiasis, Prof. A. O. J. Kelley, the great internist, writes in Osler's System of Medicine: "The symptoms of chronic, long continued and recurring indigestion are of the utmost importance and are commonly misinterpreted." This is a clinician's conservative statement of the attitude of physicians at large to the symptoms that should point clearly to an infected gall bladder.

The writer believes that up to the present moment one hundred diagnoses of infected appendix have been correctly made to account for certain abdominal complaints and symptoms to one diagnosis of a symptom complex that should quite as unmistakably point to an infected gall bladder.

The association of indigestion with infected gall bladders is well-known. "The sudden, irregular, mild, dyspeptic attacks are quite as typical of gall bladder disturbance, as are the severe typical attacks which as a rule supplant the mild." (Graham) We should never forget that a lifetime of chronic indigestion may be caused by an infected gall bladder, and not deny the sufferer the relief that surgery affords.

If nearly 10 per cent of our population have infected gall bladders and gall stones between the ages of 40 and 60 our population is 90,000,000, then nearly 3,000,000 are suffering more or less from a curable disease. The mere fact that a large percentage of these patients do not die from gangrene, peritonitis or cancer does not prove that such long continued infection does not shorten their lives, for I believe it does shorten their lives, while it surely lessens their comfort of living and influences their usefulness.

Diagnosis: Given a patient with sudden, mild, irregular, recurring dyspeptic attacks: wash the stomach with soda and water and diet carefully, repeatedly palpating and forcibly percussing the gall bladder (Murphy) for soreness. Differentiate especially duodenal ulcer, floating kidney, renal calculus appendicitis, and pleurisy. Remember that "the easier the diagnosis the worse the

prognosis" (Bloodgood), and give him ten dollars' worth of diagnosis.

Cholesterin stones are not of sufficient density to give the X-ray a chance to be positive.

Treatment: The internist should treat the original infection of the gall bladder and the homœopathic remedy, combined with antiseptics such as Hexamethylenamine and salicylic acid will certainly cure many cases if rational measures of diet, exercise, etc., are advised and maintained.

The writer would urge the clinician to keep in touch with these patients over a long period, and they should be given to understand that their course of supervision must be a long one, of years.

After the gall stones form the case is surgical. The true reason that there has been controversy over the advantages of this or that medical treatment is because the disease is a very chronic one, lasting a long lifetime frequently, and because there are relatively fewer risks of rapid, fatal complications.

The radical or surgical cure of the infected gall bladder either with or without gall stones is drainage, for it is wise to retain the gall bladder except under special circumstances.

Operation is a procedure of very small risk, almost no mortality, in the cases that have not been allowed to go too long.

The technic of operation is uniform in all clinics, which is a practical assurance that all are getting good results from the simplest of methods. A right rectus vertical incision for gall bladder alone suffices, an additional cut upward and inward (Bevan) and rotation of the liver (Robson) for common duct work. Two rows of gut invert the edges of the gall bladder around the rubber drainage tube, which is dropped back into the abdomen, the distal end of the tube leading into a sterile glove.

"Put a little piece of rubber drainage down under my gall bladder," was the only request made by one of our very greatest surgeons when he was operated for an infected gall bladder, and all surgeons do so, leaving it for four days and the tube in the gall bladder for seven.

In conclusion: more and more I believe that all diseases of the abdomen, with distress or pain, are surgical until you can prove them to be medical.

**TREATMENT OF PERTUSSIS.**

By T. L. HAZARD, M.D., Iowa City, Iowa.

In order that we may get a broad view of the treatment of whooping-cough I purpose briefly to bring together the ancient and modern methods of both the allœopathic and homœopathic schools.

First I will quote from Cullen's "First Lines on the Practice of Physic" published 130 years ago. You will recall that it was while translating Cullen's *Materia Medica* a hint regarding the action of cinchona gave Hahnemann inspiration to found the new school of medicine. Probably quinin in this instance had more far reaching and beneficent effect than all the quinin prescribed since that time.

Cullen says: "The cure of this disease has been always considered as difficult, whether the purpose be to obviate its fatal tendency when it is violent, or merely to shorten the course of it when it is mild. When the contagion is recent, and continues to act, we neither know how to correct, nor how to expel it; and therefore, the disease necessarily continues for some time: but it is probable, that the contagion in this as in other instances ceases at length to act; and that then the disease continues, as in other convulsive affections, by the power of habit alone.

"From this view of the matter I maintain that the practice must be different and adapted to two different indications, according to the period of the disease. At the beginning of the disease, and for some time after, the remedies to be employed must be such as may obviate the violent effects of the disease, and the fatal tendency of it; but, after the disease has continued for some time and is without any violent symptoms, the only remedies which can be required are those which may interrupt its course and put an entire stop to it sooner than it would have spontaneously ceased.

"For answering the first indication: In plethoric subjects, or in others, when from the circumstances of the cough and fits it appears that the blood is with difficulty transmitted through the lungs, blood-letting is a necessary remedy; and it may be even necessary to repeat it, especially in the beginning of the disease; but, as spasmodic affections do not commonly admit of much bleeding, so it is seldom proper in the chin-cough to repeat this remedy often.

"As costiveness frequently attends this disease, so it is necessary to obviate or remove it by laxatives; and keeping the bowels open is generally useful; but large evacuations in this way are commonly hurtful,

To obviate or remove the inflammatory determinations to the lungs that sometimes occur in this disease, blistering is often useful, and even repeated blistering has been of service; but issues have not so much effect and should by no means supersede the repeated blistering that may be indicated. When blisters are proper, they are more effectual when applied to the thorax than when applied to any distant parts.

"Of all other remedies, emetics are the most useful in this disease; full vomiting is frequently to be employed; and in the intervals necessary to be left between the times of full vomiting, nauseating doses of the antimonial emetics may be useful.

"Fright may possibly be a powerful remedy, but it is difficult to measure the degree of it that shall be produced; and, as a slight degree of it may be ineffectual, and a high degree of it dangerous, I cannot propose to employ it.

"The other remedies which we suppose suited to our second indication, and which indeed have been frequently employed in this disease, are anti-spasmodics or tonics. Of anti-spasmodics, the most certainly powerful is opium: and when there is no considerable fever or difficulty of breathing present, opium has often proved useful in moderating the violence of the chin-cough; but I have not known it employed so as entirely to cure the disease. I consider the use of Peruvian bark as the most certain means of curing the disease in its second stage; and when there has been little fever present, and a sufficient quantity of the bark has been given, it has seldom failed of soon putting an end to the disease." Such was the accepted treatment in the year 1784. One hundred years later Loomis, another member of the dominant school, said, "All of the internal and external specifics for the prevention of the paroxysms of whooping-cough, which have been proposed, and in some instances strongly advocated, are of very doubtful benefit."

In the year 1910 Jacobi published a treatise on diseases of children. He stands among the highest of the present day authors of the allœopathic school. Let us learn of him:—

"As a matter of fact the prevention of contact and holding at a distance is the only prophylaxis in whooping-cough; there is no other protection of which I am aware. Even more than the prophylaxis is the therapy of the disease limited, and, as we may frankly admit, helpless.

"Up till now there is no active therapy of whooping-cough, although every day, air-bubbles of therapeutic successes are exploded. Unfortunately now, more than ever, pharmaceutical industry is busy in forcing remedies upon us; up till now, all without effect. Whether we prescribe reputed specific measures, which are

none, like pertussin—a sweetened thymus extract or extract of chestnuts, antibacterial remedies of a general nature such as carbolic acid, thymol, resorcin and many others, whether these remedies are administered internally or externally, no matter, they are and remain without effect. The attempt has been made a hundred times to hang clothes dipped in carbolic acid over the beds of children; occasionally amelioration is said to have occurred; according to my experience it is entirely without result; the same is true of inhalations of oil of turpentine, naphthalin, petroleum, nitrite of potassium, tincture of eucalyptus, gazeol steam, sulphurous acid, etc. This only tortures children; we accomplish nothing with these remedies, for the disease progresses uninfluenced if it does not even show a deleterious effect, as occasionally after the use of naphthalin, in that the respiratory organs show an inflammatory reaction and bronchitis develops.”

Let us now see what homœopathy offers for the treatment of whooping cough. We find *materia medica* is rich in drugs for this disease but this richness may be a source of embarrassment to the prescriber. How fortunate it would be if we had a specific for whooping-cough! Under such circumstances all we would need do would be to diagnose the disease and, presto! it would be cured.

But giving specifics has been not only a way of ease for the *alœopaths* but also a way of pitfalls. To their sorrow they have found that what is most successful at a certain time is an utter failure at other times. This will explain why the profession raves over a drug as the *ne plus ultra* at one time and entirely repudiates it a few years later.

On the other hand, the usual way of differentiating the homœopathic remedy in each individual case is a weariness to the flesh and often entirely unnecessary.

I contend that there is a middle ground especially in the treatment of contagious diseases between *alœopathic* specifics and homœopathic individualization. In almost every epidemic a certain remedy may be found which will cure a large majority of cases of that epidemic.

Instead of treating each case without reference to any other we should study as much as possible the epidemic as a whole, especially as to the drug best indicated and most successful in the non-strumous cases. Soon as we find a medicine which cures two or three cases of the disease occurring in children otherwise healthy we can be quite certain we have the epidemic remedy.

I do not mean when we find a remedy under which cases recover but one which undoubtedly has an actively curative effect.

Such a remedy did Hahnemann find for an epidemic of whooping-cough appearing in his time. “No known medicine,”

said he, "is so capable of producing a state similar to that of the epidemic whooping-cough as the sundew; and this disease, which, notwithstanding all the exertions of alloëopathic physicians, either becomes chronic or terminates fatally, is cured in a few days in a certain and safe manner, as I first showed, by the smallest portion of a drop of the decillionth dilution of the juice of *drosera rotundifolia*." The decillionth dilution is the same as the twelfth decimal attenuation. [*We figure it to be the thirtieth decimal. Ed.*]

In a recent extensive epidemic of whooping-cough I found mephitis to be such a remedy. After obtaining this information I prescribed it in nearly all cases with the most happy results. "It worked like a charm," "It helped me immediately," "It is great stuff," etc., were among the many commendations for it.

I should consider my paper a failure if any one should go home with the thought that mephitis is the remedy par excellence for pertussis. Though it has been for one epidemic some other remedy may be needed in the next. *Castanea* is an excellent remedy for this disease, as are *drosera* and several others.

Cases not benefited by the epidemic remedy call loudly for antipsoric treatment.

No less than ninety different drugs are useful in whooping-cough under differing conditions. Should I mention all of them or go into detail regarding a few, the length of my paper would be tedious; so I will give a few leading indications for a few of the most frequently called for remedies and will leave more extended information to be found in our text-books, my chief reliance being Lilienthal's "Homœopathic Therapeutics."

Before mentioning the internal remedies let me emphasize the fact that hygienic conditions should be made the best. Especially is this true as to fresh air.

*Belladonna*.—Useful early in the disease where with dry and violent cough we find cerebral congestion, with headache, red face, congested eyes, dilated pupils, throbbing carotids and dry, inflamed throat.

*Castanea vesca*.—Early stage, dry, ringing, violent, spasmodic cough. Desire for warm drinks. Cough worse during the day.

*Coccus cacti*.—Difficult expectoration of tenacious white mucus, with or following whooping-cough.

*Cuprum met.*—The keynote for this remedy is cramps or spasms. Generally the extremities and muscles of respiration are affected. Spasm of the latter accompanies the paroxysm of cough, arrests the respiration and causes the face to become blue or purple. A cold drink at the beginning of the paroxysm stops or greatly reduces it.

Drosera.—Paroxysmal stage.—Constriction of the chest, with violent cough, worse at night.

Hyoscyamus.—Cough worse on lying down, constriction of throat causing difficulty in swallowing, especially liquids.

Ipecacuanha.—Excess of mucus, nausea and vomiting, cyanosis or pale face with tendency to spasm. Epistaxis of bright red blood.

Mephitis.—Spasmodic, hollow or deep cough, with hoarseness and pain in chest. Vomiting of food hours after eating. Inhalation difficult, exhalation still more so with sensation of smothering; worse on lying down at night.

The two thoughts I desire to emphasize are,—whooping-cough is amenable to medicines, and, finding the epidemic remedy is practical and decidedly advantageous.

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### THE RATIONAL TREATMENT OF FRACTURES.

By HUGH M. BEEBE, M.D., Prof. of Surgery, University of Michigan, Ann Arbor, Michigan.

In taking up the discussion of a subject so timeworn and at the same time so vital to us as surgeons or general practitioners, it is necessary only to call attention to the percentage of poor results in the practice of any surgeon, however skilled he may be. This percentage is not high but presents possibly the most serious difficulty to those whose practice brings them in more or less constant contact with emergency surgery.

The first thought in the treatment of any fracture is functional result, and there is no question in my mind but that the most certain way to obtain good function is by obtaining the best anatomic result possible. However, it is the very common experience of all of us that good function commonly exists at the site of marked deformity; but this is to be considered as a good result rather *in spite of* the malposition than *because of* it. To accept a method of treatment for fractures in general, one must find that method which promises definitely the best anatomic result.

The broader classification of the existing methods might be mentioned: (1) non-operative and (2) operative. Each of these may be subdivided into (1) early, (2) delayed, (3) late, according to the time of application.

The non-operative method up to a few years ago was the sole treatment for simple closed fracture; and there is no question in my mind that that same treatment should still be the method of choice in the very large proportion of these cases. It is inter-

esting in this connection to note the conclusions of the investigating committee of the Council of the British Medical Association on the subject of "The Ultimate Results in Fractures from Operative and Non-operative Means." To Arbuthnot Lane we owe the recent stimulus in the open treatment of fractures, and it was due to his very valuable and scientific work that the Committee was appointed. They decided rather in favor of the immediate open method in the hands of a skilled surgeon, but noticed that the higher percentage of favorable results was in children and this percentage differed not at all from the non-operative or simple mobilization methods of reduction. In adults they found the percentage falls but rather in favor of the operative method. However, these statistics in adults for the non-operative class were taken from some 3000 cases and in the operative class from less than 100 cases,—rather an unfair comparison not taking into account the difference in ability in the men applying the two methods.

To my mind the fractures demanding immediate operative interference as the treatment of choice, are: (1) depressed skull fractures, (2) fractures of spinal vertebræ and (3) fractures of the patella. Skull fractures in the absence of intra-cranial injury are wisely left alone. Vertebral fractures must have open approximation of fragments to prevent cord injury. The patella fracture from its anatomic position cannot be retained in apposition without suture of one sort or another, personally, chromic catgut through capsule is sufficient. I might add to these three classes, a fourth, namely, some of the oblique and spiral fractures of the middle third of the femur, in which the strong adductors or extensors maintain the deformity through their spasm, and in which reduction is secured only after open operation and osteotomy, and then with some degree of shortening. Compound fractures are already open and demand surgery, and this is simply the aseptic surgical treatment of any open wound in the presence of a possible infection and does not mean the mechanical maintenance of bony apposition by plates, grafts or inlays. For immediate treatment I believe we can exclude all other fractures from the open operation.

The open method in the hands of one thoroughly accustomed to the absolute aseptic technic of bone surgery will undoubtedly give a high percentage of results from an anatomic standpoint, but to advance this treatment as the ideal one for all fractures will place it at the disposal of the occasional operator and he cannot get the results open to him in the more conservative closed treatment. There is at the present time,—and it is only a few years since the open method has been advocated,—a reaction against this method, which is purely and solely the result of the many cases of sepsis

and some few fatalities which have followed plating operations. There is no question but that cutting down on the seat of fracture permits a more perfect apposition of fragments and the removal of intervening soft parts, but at the same time a focus of lessened resistance is formed and a favorable site for infection. Even under the most favorable conditions, the bony union in cases treated by open operation will be prolonged from two to ten weeks longer than those under closed treatment, the result of operative trauma or foreign body.

The introduction of foreign materials to correct malposition adds to the area of lessened resistance and such lesions as chronic osteitis, pressure necrosis spots, etc., frequently result. It has been shown by Magruder that even in the absence of infection, bony consolidation has been retarded by plates. If the open method is used, it would seem, from the work of Murphy and Albee, that the autogenous bone-graft or transplant and exclusion of foreign material is conducive of best results. My own experience with the open operation and steel plates as an immediate procedure has not been extremely fortunate, and this probably prejudices me in favor of conservatism.

As a delayed method of treatment in malpositions and in ununited fractures, the open operation is a splendid resource, but I believe the method of Murphy and Albee greatly superior to the Lane technic simply from the standpoint of foreign bodies. My own experience in this connection is limited to four cases, in one of which we used the intramedullary dowel of Murphy in persistent malposition of fracture of middle third of femur, with good success; however, it necessitated careful apposition and sizing of graft. In a second case a graft from tibia was fitted into proximal fragment of an old ununited radial fracture, the distal end simply placed in contact with graft healing promptly by first intention with improved function but marked deformity. Albee in June, 1914, reports a similar case. The remaining two cases were one ununited fracture and one marked malposition of lower third of tibia. Albee's bone inlay method was used, and radiographs taken the first week in June, 1914, eight weeks after operation, show prompt bone formation with considerable callous. These operative procedures require special instruments in the way of motor saw, etc., and without these shock and trauma are vastly increased.

In dealing with fresh fractures we have one condition and in dealing with ununited fractures we have an almost opposite (Albee). In the former, the bone-producing cells are active and all that is required is temporary apposition till fragments adhere; in the latter condition bone deposition is practically nil and our treatment must stimulate fresh areas after removal of sclerosed or spongy tissue with curette or saw,

The ideal immediate treatment, then, for recent fracture is the closed manipulation with prompt and accurate reduction of fragments, application of a splint for temporary immobilization and stimulation of osteogenesis. According to location of injury the application of this method ranges from a very simple procedure in fracture of phalanges to the most difficult in reduction of upper end of femur or lower end of tibia and fibula.

Reduction in our more common fractures of the long bones is most readily accomplished by (1) increasing the deformity and (2) reduction by traction with pressure at fracture site. This is more particularly true of Colles', Potts' and supracondylar fracture of humerus.

After reduction, the application of the splint carefully padded or moulded to outline of bone is made. I prefer the moulded plaster of paris splint or padded basswood, but never the circular plaster, because it effectually shuts out inspection, and all these cases should be seen within 24 hours and daily or every other day for two weeks. In the moulded plaster splint we have a simple method and a fitting splint with a minimum of padding and a maximum of comfort. The application of small gauze pads, as is the very common practice about the fracture site in Colles, would seem to me rather detrimental to good circulation. The moulded plaster splints, one anterior and one posterior, in fractures of arm and leg, with application of adhesive straps for retention, practically eliminate bandaging and permit ready inspection and massage with small amount of disturbance.

The most frequent causes of unfavorable results in the closed manipulation are (1) too tight splintage, (2) too loose splintage and (3) too prolonged splintage. Splintage too tight results early in circulatory obstruction with immediate oedema and secondary contractures, paralysis and atrophic myositis. These injuries are usually at site of fracture, but not necessarily so. Splintage too loose permits large effusion, and if near a joint both intra- and extra-articular effusion, in which large callous is formed and tendons become adhered. Too prolonged splintage results in binding down of tendons and fibrous ankylosis.

In the normal, healthy individual bony union has taken place in from four to five weeks, no matter what bone is fractured. Colles' is completely united in 18 days and femur in 28 days. In the absence of foreign body, interposing soft part or disease, the necessity for support or coaptation splint ceases at 4th or 5th week. The sooner the splint can be removed the better. Nature throws out a cement in first ten hours, and splints should hold while this is hardening.

We have now accomplished two points in our closed method,

The last and not the least important is stimulating osteogenesis. This is aided quite materially by massage begun at end of 24 hours after injury and first dressing, light, with the finger tips at first, and increasing in severity each day but never to point of pain. In the majority of cases this materially increases the comfort of the patient. Massage all fractures early except elbow, which should not be disturbed before end of second week, when massage may be begun. Passive and active motion should be begun by end of first week in all cases except elbow. These elbow cases are treated best by Jones' position of acute flexion in which the triceps acts as internal splint and the normal carrying angle is retained, olecranon fractures excepted.

Under any method of treatment our prognosis is guarded, depending on relation of fracture to joint, the accompanying injury to soft parts and the general reaction of patient, whether he be an alcoholic, a neurotic, or of rheumatic tendency. Prognosis should be made as to function rather than to deformity. In one fracture in particular, namely, the clavicle, complete functional return is almost uniformly good in the presence of deformity, and very few fractured clavicles are completely reduced or if reduced very few are held in reduction. A secondary operation in these cases I believe to be uncalled for unless for purely cosmetic purposes.

Stiff joints result from errors in splintage and too late massage and motion more frequently than from any other causes, and they form a most troublesome complication. Preventive measures are of course the best. The indiscriminate use of forced motion under anæsthesia is of doubtful value and may bring most disastrous results in the way of fracture or peri-arthritis. Non-operative methods of massage and motion both manual and mechanical should be first tried and these failing, tenotomy, capsulotomy or even arthrotomy may be required.

The frequent and repeated use of X-ray both before reduction and during treatment to determine progress and position of fragments is most important and should not be neglected in any case.

I will summarize these remarks in the following:—

- (1) Functional result is the prime object of treatment and anatomic correction is the best method.
- (2) Non-operative method best in vast majority of fractures.
- (3) Operative treatment prolongs healing.
- (4) Operative treatment of most positive value as a delayed method.

- (5) Splinting errors the most frequent cause of bad results in closed method.
- (6) Early massage and motion essential in closed treatment.

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## THE MANAGEMENT OF UNUNITED FRACTURES BY NAILING.

By WILLIAM DAVIS FOSTER, M.D., Kansas City, Mo.

The causes of ununited fracture are many. Chiefly may be named constitutional maladies such as syphilis, tuberculosis, diabetes, malnutrition, anæmia, fragilitas ossium and others. Failure to effect and secure perfect apposition of the separated parts of bone, faulty or impossible apposition may result from interposition of bony fragments or of soft tissue between the ends of the broken bone, or by ignorance on the part of the bonesetter. Failure to maintain apposition may result from muscular contraction, from unsuitable, inefficient apparatus or from the uncontrolled and uncontrollable lack of coöperation on the part of a refractory patient. Patients will disturb, tamper with and remove the dressings with the view to bring about a bad result causing deformity and impaired function by reason of which to found and to institute damage suits. It is always wise to have a consultation in the treatment of fractures, however simple and trivial the injury may appear to be. In such event, two surgeons agreeing in diagnosis and in treatment and finding lack of coöperation on the part of the patient will be able to establish an invulnerable defense by showing before the courts all the facts in the case.

By use of the X-ray the presence of tissue preventing accurate apposition can usually be found at an early stage. If doubt still exists, incision over the site of the injured bone should be made and if found, the offending substance should be removed, the adjustment effected and fixation established by the necessary procedure. It is not tenable to advise the open treatment of fracture in all cases. While this practice might be warranted in the city where hospital conveniences are available, the doctor in the village or in the country must do the best he can with the facilities at hand.

In addition to the use of the classical, ordinary and well-known splints for the fixation of fractures the devices of wiring

and pegging have been in use for a good many years. These are frequently helpful and often prove satisfactory. It is found, however, in a certain number of cases that wiring is inapplicable or inefficient; pegging with the use of ivory pegs also quite often fails. In those cases in which any or all of the above plans are inapplicable or have failed, the bone plate has been resorted to in later years with satisfaction in many cases. The so-called internal splint while sometimes ideally efficient may also prove disappointing. Lately an additional aid has been made available in certain cases wherein all other methods have failed, namely, the process of nailing. This plan is peculiarly adaptable in cases of non-union of fractures of the neck of the femur in which the head of the bone retains its nutrition; in fractures of the upper end of the humerus, especially in which the head of the bone is split into two or more pieces, and in cases of separation of the condyles of the humerus.

The operation of nailing consists in cutting down over the site of the fracture, clearing out any extraneous tissue found, freshening with bone curette, gouge or chisel, the end of the bone; coapting the fragments and nailing them together with nails of suitable length. For instance, in case of the head of the femur being separated from the neck, two eight-penny wire nails are used and driven directly through the trochanter major into the head of the bone at points about three-fourths of an inch apart. Ununited fractures of other bones are to be managed by the use of nails of such length as the size of the bone may require.

It is here mentioned that in the performance of an osteotomy the most perfect asepsis should be maintained. It is suggested that all instruments used in the operation should be boiled for at least one hour.

## EDITORIAL.

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Books for review, exchanges and contributions—the latter to be contributed to the *GAZETTE* only and preferably to be typewritten—personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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### MEDICAL LITERATURE.

William Osler has said: "Books are tools, doctors are craftsmen, and so truly as one can measure the development of any particular handicraft by the variety and complexity of its tools, so we have no better means of judging the intelligence of a profession than by its general collection of books. A physician who does not use books and journals, who does not need a library, who does not read one or two of the best weeklies and monthlies, soon sinks to the level of the cross-roads prescriber. The true worker does not want text-books; he looks to journal literature and monographs."

Neglect to keep in contact with contemporaneous professional thought can lead only to degradation in professional standing. Keeping abreast of the times in medicine is possible by graduate school work, by intimate association with those who have attended graduate sessions or by careful perusal of current medical literature. Recourse to literature is the most convenient of the three methods. There are, fortunately, a number of men who devote a great deal of time and labor to the preparation of abstracts of the literature along all the specialized branches of medicine. By systematic perusal of one or two general weekly or monthly magazines and their contained abstracts one may easily keep up with what is being done in general medicine. If, in the abstracts, an article is found which, to the specialist, is worthy of particular notice, it is very little trouble to secure the original for study at one's leisure. It is, then, inexcusable not to know what is going on in the medical world.

#### Interrelation of Research and Practice.

It is through the medium of medical literature that the student of the science and the student of the art must be brought to a higher plane of mutual helpfulness. Unfortunately for both, there exists

a tendency for the scientific man to be too exclusively scientific and the practical man too exclusively practical. There are few men who are equally adapted to pure research *and* practice, hence there is need for the clinician to essay the conversion of experimental achievements into practical use. There is need of studious practitioners able to comprehend and to apply critically the findings of their colleagues in the laboratory. The former group frequently may serve not only to guard against unsuspected or baffling sources of error, but at times may indicate the previously unrecognized significance of scientific discoveries—it being a fundamental fact that search for knowledge with discriminating reference only to its application is very commonly unrewarded.

Benevolent, often condescending, toleration is the usual and exasperating attitude of the modern physician toward medical research. The remark—"most interesting,"—so monotonously made by such complacently sympathetic "practical" men, is an expressive commentary upon the inertia of mentality, the serenity of stagnation, the sheer laziness which clog their half-hearted, subconscious efforts to extricate themselves from their narrow, selfish little grooves. If certain lines of research do not engage their attention, there is no reason for making hypocritical comment; politeness should give way to frank and truthful statements in such instances.

The essential integration of the practitioner's experiences and the laboratory worker's conclusions will never be accomplished by sympathy alone; cordial encouragement, appreciation born of careful study, and intelligent, constructive criticism are the factors which will ultimately establish efficient mutuality of relationship.

### **Present-day Output of "Medical Literature."**

It is obvious that *good* medical literature is essential to progress. Can modern medical literature measure up to the standard expressed in the word "good"? We do not think so. The recent, stupendous multiplication of published "original" contributions, case-records and reviews has resulted, collectively, in an enormous, well-nigh discouraging mass composed of much that is trivial, fragmentary and puerile. Instead of having a system of healthful irrigation, the medical world is suffering an inundation by this huge tidal wave of medical publications which threatens almost to swamp both hemispheres. Probably this is in large part due to perfectly natural, honorable, justifiable, competitive ambition among medical men. A not negligible factor, however, is to be found in the unhealthy rivalry between medical journals. The manuscript which falls short of this standard of excellence of one editor, instead of being consigned to the waste-basket or being modified and improved—thus benefiting the author, the readers and the

science,—finds speedy admission to the columns of another of the vast array of medical journals which compete for professional patronage.

*Hasty publication.* William Harvey had demonstrated his ideas of the circulation of the blood for twelve years before publishing them; twenty years elapsed between the dates of Hahnemann's cinchona experiment and the elaboration of his ideas in the first edition of the "Organon"; between Darwin's first draft and the final publication of the "Origin of Species" seventeen years were allowed to pass; yet today, men *rush* into print with ideas that are pigmy-like compared with these magnificent conceptions.

*Hasty generalization.* Much of the undeserved stigma which has fallen upon modern therapeutic research is due to the premature exploitation of experimental findings published in "preliminary notes." It is not always the observer who is inspired with the possibility of the therapeutic application of his incomplete investigations; all too frequently do the nostrum vender, the manufacturer and the practitioner with commercial instincts err grievously in this respect. A few animal experiments, often without adequate controls, are performed, the clinic is hastily requisitioned for a brief period, propaganda is launched and then comes the awakening: erroneous premises, evidence inadequate to surpass the limits of experimental error, uncertain and conflicting clinical observations and the heralded "cures" are dispelled.

A conservative and humble demeanor characterizes the deeply thoughtful, thorough students who realize the difficulties of carrying into execution even the simplest principles of their science. The experience of such men teaches them to appreciate justly and not to be misled by new discoveries; and, in contrast to the novice and dilettante to whom nothing is impossible, the thoroughly cultivated, scientific man hesitates to make emphatic statements. He may not so frequently attract public interest but his reputation and wisdom will be more enduring.

Precise knowledge is of discouragingly slow growth; increments are progressively added only through costly, laborious, painstaking experiments. Undoubtedly we owe many valuable suggestions and discoveries to empiricism. Indeed, the experimental has always been and probably will continue to be outstripped by the empiric, but this fact does not justify haphazard measures which throw available scientific data to the winds and proceed in defiance of well established principles.

The fundamental virtue of the medical profession is sincerity,—truth-telling. Human fallibility or individual untrustworthiness may result in occasional lapses from truth. These are not necessarily fatal, but if medicine should become saturated with falsehood,

either intentionally or carelessly, the whole profession would be as useless and immeasurably more harmful than an army saturated with cowardice. Such a possibility is, of course, unthinkable, but if the tendency to habitual inaccuracy, exaggeration, and over-hasty generalization—each for all practical purposes being as disastrous as mendacity—should become much more common, it could only be a force leading to the disintegration of the whole profession. Enthusiasm and optimism are further removed from safety and more productive of misleading results or actual harm than is agnosticism—even pessimism.

### Titles.

In preparing the index of Vol. xlix of the *Gazette* we met with, among others, the following problems—so-called titles: "Lest We Forget," "There is No Darkness but Ignorance," "Gleanings," "New Variations on an Old Theme," "What Is It?" "A Couple of Cases," "The Little Things," "Ease the Accursed Hour," "A Contrast." What can be learned or guessed at from any of these? Nothing, except the bland inanity of one angle of the author's mentality. Such "titles" may be appropriate to a school-girl's graduation essay or a theological discourse, but they are distinctly and ridiculously out of place in any presumably scientific medical journal. They are exasperating to the busy man who must select his reading from the table of contents. They sound like fiction and frequently the articles read like fiction. Such titles mean absolutely nothing when indexed and the articles are usually, though often undeservedly, consigned to oblivion merely because of the author's unconscious fatuity in selecting some popular *bon mot*, some melodramatic phrase, to express his object in writing the paper, instead of making the titular inscription a distinctive designation which is explanatory or descriptive of the nature of the substance of the article.

### References.

An incorrect reference is worse than useless; therefore scrupulous accuracy in verifying and transcribing is more important than any felicity of presentation. Serviceable completeness is the next most important point. A reference to Wells, Chemical Pathology, is useless; the name of publisher, edition and page are essential. In references to periodical literature the author's name and initials, the title of the article, name of periodical, year, volume and page should be given—the title being of use in assisting the reader to determine what special phase of the subject has been considered. In giving a general survey of the literature references may be grouped at the end, in bibliographic style; otherwise, individual, consecutively numbered footnotes should be employed.

The drool commonly found in the slushy, pseudo-popular medical journals—for which there is no excuse for existence save for the advertising fees—is lacking in references and almost uniformly worthless. The supposedly educated scientist who feels it necessary that he should, at frequent intervals, “publish” an article in order to keep himself before the medical public, he is the man who, failing to give references or even to indicate where reasonably complete bibliographies may be found, stamps himself as a mental parasite, a lazy and shallow student, a self-seeker with a paper-thin scholarly veneer.

### Clinical Reports.

Sporadic and uncorrelated reports are usually but chaff in the medical granary. Especially in homœopathic literature are case-reports characterized by a paucity in the number treated, ludicrous inadequacy of observation and a superabundance of optimistic conjecture as to the credit which should be ascribed to the therapeutic method employed. From reports of cases in which baths, “tonics,” electricity, exercises and suggestion are administered in addition to the indicated remedy, the most astute and unbiased judge cannot possibly make correct inferences regarding the efficacy of any one therapeutic measure. It is to be regretted that such inferences, which cannot be otherwise than false, are constantly being made by physicians whose zeal is being directed, in a misguided and unwittingly dishonest way, toward the wider recognition of homœopathy.

Clinical experiments, by which comparable data on special and “expectant” treatments may be obtained, are perhaps most conveniently conducted in the dispensary and hospital; still, we may secure evidence of worth and conclusiveness from the cases met in daily practice. If systematically recorded and treated with this idea of experiment always in mind, these case-reports can be made to contribute generously to the aggregate of clinical testimony which must finally serve to confirm every therapeutic method or principle. Such a course of experiments, *with controls*, conducted by men of integrity, possibly under the direction of each district medical society, would, in a few years, provide us with facts rather than speculations to guide us in treatment, and facts rather than speculations to publish in our periodicals. How frequently do we chance across those reports of a new method “tried out” on three or four cases, reports of that very rosy tinge which the initiated recognize as the reflection of the autogenous illumination of the writer.

One point of importance which is habitually overlooked in reporting cases, is that of the exact designation of time relations. “Six weeks ago” is a meaningless phrase in an undated report.

Expressions such as "December 17, 1914," "five days after the last medication," which convey precise ideas to the reader's mind are the ones to be employed. Another common failing is the ambiguous and inconsistent use of pronouns. The first personal pronouns—I, me, we, us—are the clearest and most satisfactory terms to use. Annoying confusion results when an author in one place refers to himself as "the writer," in another as "I," in a third as "the author," in a fourth as "we," and then uses "we" with reference to the world at large or the medical profession as a whole.

### Editorial Policy.

Sooner or later a real standard of quality must be adopted in medical journalism—a standard indifferent to captious, off-hand, gossiping criticism, granting no concessions to individual preferences or relationships and subjecting all contributions to a candid, uniform, intensive and unyielding critique. By establishing such a standard, and only by establishing such a standard will it be possible to accomplish abridgment of the current flood of papers and to achieve more perfect homogeneity of medical knowledge.

### Suggestions as to Improvement.

Simplicity, precision of statement, exactitude of definition are marks of truth—also marks of genius. Nothing is simpler than to write incomprehensibly; just as, contrarily, nothing is more difficult than to write so that everyone must necessarily understand. Every really great writer tries to express his thoughts as clearly, purely, definitely and shortly as possible.

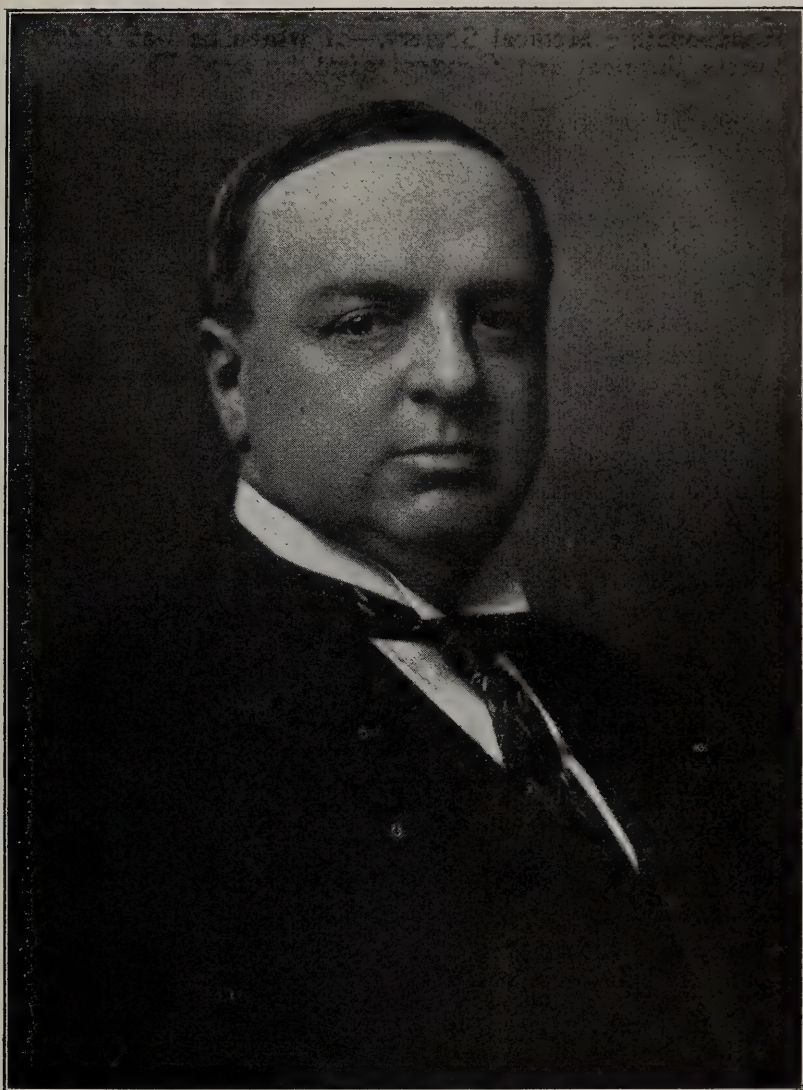
Authors who put off their thinking until they begin to write are like sportsmen who set out at random and are not likely to bring very much home.

There must be a wider and deeper implanting of the principle that the index of the individual's achievement is the radical excellence and comprehensive intent of his contributions, distinctly *not* their number, diversity or prompt succession.

Finally, *good* papers are not written; they are *rewritten*.

S. B. H.

## OBITUARY.

**Winfield Smith, M. D.**

Dr. Winfield Smith died on December 16, 1914, of diabetes. The insidious disease was not suspected until a few months ago, and after that time its fulguration was rapid, its progress relentless, and its control beyond finite power.

Dr. Smith was born at Chatham, Massachusetts, on February 11, 1861. He prepared for college in the Boston public schools and received his medical degree from Boston University in 1883, having previously obtained the Baccalaureate degree, Ch. B. His post-graduate courses were taken abroad, and he made frequent visits to European hospitals during his whole professional career, thus keeping in close touch with modern surgical progress.

Two years after his graduation he was appointed Demonstrator in Anatomy in Boston University School of Medicine, and from that time, 1885, until his death he was on the teaching staff of the School through the various stages of the Anatomy and Surgery courses. Since 1904 he had been Professor of Operative Surgery.

His connection with the Massachusetts Homœopathic Hospital began soon after his appointment in the Medical School. In 1890 he was appointed

Assistant Surgeon and 1895 was made full Surgeon, holding the latter position at the time of his death.

He was a member of the American Institute of Homœopathy, Massachusetts Homœopathic Medical Society,—of which he was President in 1901,—Massachusetts Surgical and Gynæcological Society, The American College of Surgeons, The Algonquin Club, Boston Athletic Association, Eastern Yacht Club and other organizations.

While devoted to his professional work, his interests were widespread and varied. Keenly appreciative of all the beautiful in life, his æsthetic sense was most appealed to by music and art, and his enthusiasm in the discussion of these subjects was contagious.

It is difficult to write truly about such a friend, such a physician as was Winfield Smith without, to stranger eyes, seeming to be extravagant; yet it is more important to write about him as he was than to consider how the truth may impress others, strangers or friends. He was a loyal, lovable comrade, a gallant gentleman, and one in whose nature there was a strong and simple heroism. Considerate and kind to all, loved by many, respected by more, he did not wear his heart upon his sleeve, and he was unspoiled by praise. The substance of his character was manliness, sincerity, and courage, and there was in him a very winning quality of sweetness.

In every relation of life Dr. Smith was direct, unaffected and honest. He was remarkable for tolerance and courtesy; and he never intentionally wounded the feelings of any one, or caused unhappiness. For those in trouble or in want he had, indeed, "a heart to pity and a hand open as the day for melting charity." In his professional intercourse he was invariably accommodating and generous, according to his colleagues all praise and never blame. His ability as a surgeon was of the highest and its usefulness was greatly enhanced by that spirit of optimism and deep human sympathy so characteristic of him. His splendid qualities were many enough and strong enough to justify the love he inspired,—if such justification is ever necessary,—and to make inadequate all the poor words of tribute and honor which we can utter. To those who knew him best his death is a bitter bereavement and a lasting grief.

"One who never turned his back,  
but marched breast forward,  
Never doubted clouds would break,  
Never dreamed, tho' right were worsted,  
wrong would triumph.  
Held that we fall to rise, are baffled  
to fight better;  
Sleep—to wake!"

And so we leave him, "still loftier than the world suspects, living and dying."

F. C. R.

## MEDICAL JOURNAL REVIEWS.

Medical Century, October, 1914.

1. *Obstetrical Suggestions.* Westover, H. W.
2. *Cæsarean Section.* Foster, W. D.
3. *The Advisability of Sterilization in Contracted Pelves.* M'Elwee, L. C.
4. *Abortions.* Reily, W. E.
5. *Hahnemann's Organon and Its Relation to the Art of Medicine.* Tisdale, C. S.

A discursive, quasi-philosophical article dealing with some of the principles of homœopathy and expressed in the obsolescent theologically flavored phraseology of the past century.

In his effort to justify the doctrine of potentization, Tisdale, as do others, draws by analogy on the facts and theories of radio-activity and intra-atomic energy. He refers to Thompson's statement that if the energy in the atoms of one grain of hydrogen were liberated it would be able to

lift a million tons to the height of more than one hundred yards, and couples it with the query, "may we not expect that the energy liberated from one grain of natrum muriaticum may so disturb the vital force of man as to make him violently sick, whereas the crude salt has no influence upon him." We are led to infer that the "energy" from the natrum mur. should be "atomic" or "intra-atomic energy," and if this be true we would agree in the "expectation" that such a tremendous force, capable of lifting a million tons, would make a man violently sick. Fortunately, however, and contrary to Tisdale's direct implication, methods of trituration, succussion and dilution of drugs do not liberate this incomprehensibly powerful force which would so endanger the pharmacist, dispenser and patient. *Perhaps* these methods set free only a part of the intra-atomic energy; again *perhaps* they do not.

These speculative tendencies and arguments by analogy are sterile and illusory unless reinforced by definite, controlled, experimental data which is conspicuously absent from the article under discussion.

6. *Nux Vomica*. Gibson, D. M.

7. *Disease, Its Prevention, Cause and Cure*. Boland, J. T.

Boland mentions some of Hahnemann's injunctions concerning the use of injurious foods and the avoidance of deleterious environment and habits. The statement that "vaccine inoculations . . . lessen the power of resistance and render the individual more susceptible to disease," merits verification before it is given further wide-spread and *ipse dixit* circulation.

S. B. H.

#### Hahnemannian Monthly, September, 1914.

8. *Heart Diseases in Childhood*. Raue, C. S.

9. *The Status of the Hunger Pain in Gastric Disease*. Upham, R.

"First—hunger pain is not in itself diagnostic of duodenal ulcer alone. Second—the pain in ulcer cases is due to the motor spasm of the stomach and not to the excessive acidity. Third—the hunger pain is prone to present itself first in justopyloric ulcer, secondly in achylia gastrica, thirdly in gastric cancer, fourthly in neurasthenia and lastly with a healed gastric ulcer."

10. *An Indicated Remedy in Saccharin Diabetes*. Macfarlan, D.

Reviewed in the *Gazette*, 1914, xlix, 626.

11. *Relation Existing between Infection of the Tonsil and Certain Systemic Conditions*. Hopkins, M. E.

12. *The Sociological Aspect of Mental Defectives*. Garner, A. R.

13. *The Relation of Alcoholism to Insanity*. Klopp, H. I.

"The strongest indictment against alcohol is that it *excites the passions and at the same time diminishes the will power*. Due to the fact that it lowers the moral tone, it does much *more* harm than all the cirrhotic livers, hardened arteries, shrunk kidneys, inflamed stomachs and other lesions caused by its excessive use."

14. *Technical Factors in the Surgery of Goitre*. Roman, D.

#### Medical Advance, October, 1914.

15. *Puerperal Septicæmia*. Chapman, J. B.

16. *Homœopathic Therapeutics of Pneumonia*. Palmer, W. G.

Palmer "states" that "the mortality rate under old school treatment of pneumonia is approximately 30 per cent., as compared with a mortality rate of but 5 per cent. under homœopathic treatment." Aconite, bryonia, phosphorus, tartar emetic, sanguinaria, kali carb., ammonium carb., lycopodium, sulphur and ferrum phos. are discussed.

17. *Christian Science and Homœopathy* (cont.), Woodbury, B. C.

18. *The Second Prescription* From Adolph Lippe.

Editorial remarks on the *Gazette's* review of E. E. Case's article, "The Need and Use of a Repertory." *N. E. Medical Gazette*, 1914, xlix, 567.

This grotesque adjectival display accompanied by unusual malevolence and venomousness, furnishes a striking illustration of the mental bias and obstinacy which is almost pathognomonic of a certain number of the group of self-styled, self-adulatory Hahnemannians.

The homœopathy of the future is, to borrow an apt advertising phrase, going to win on merit, not tradition. The men who are trying to get at

the fundamentals are not of the stripe of the editor of the *Medical Advance*, who apparently believes that everything worth while in medicinal therapeutics was perfected a century ago and that further experimental investigation is "irrelevant, futile, inconsequential. . . . inane, mendacious, useless and inappropriate. . . ." Those men are going to make every effort to precisionize, probably to delimit, the homœopathic method; they are looking to what the morrow may yield—not alone contemplating the imperfect labors of yesterday.

The editor of the *Medical Advance* attacks these "incompetent, ignorant, inaccurate, purblind, and unsuccessful prescribers." Fortunately for them, his erratic machine gun is loaded only with verbal cartridges—blanks at that. A consideration of the source and probable motives of the assault renders it ludicrously feeble and melodramatic.

S. B. H.

#### Pacific Coast Journal of Homœopathy, October, 1913.

19. *Post-Operative Care in Abdominal Cases.* Young, E. W.
20. *Report of a Cesarean Section of Unusual Interest.* Ward, F. N.

The abdominal route was necessitated because of the presence of a plaster bandage worn to immobilize the legs, which were both fractured during pregnancy.

21. *Poisons and Their Antidotes,* Ramseyer, A. Ad.
22. *Recurrent Fibroid.* Barnard, F. S.

S. B. H.

#### North American Journal of Homœopathy, October, 1914.

23. *The Present Status of Antisera and Bacterial Vaccines.* Higley, H. A.  
This article is brief, superficial and in many points misleading. It is a very elementary review of a few immunological phenomena, the terminology is confused and there is little if any discussion of the present status of antisera and bacterial vaccines.
24. *Effective Teaching in Our Colleges.* Copeland, R. S.  
Reviewed in the *Gazette*, 1914, xlix, 569.
25. *A Consideration of the Argemone Mexicana.* Bornemann, J. A., and Macfarlan, D.
26. *A Thorough Proving of Euonymus Atropurpureus.* Blackwood, A. L.  
Reviewed in the *Gazette*, 1914, xlix, 625.
27. *Nasal Obstruction and Its Sequelæ.* Clark, L. H.
28. *Clinical Facts and Findings in the Use of Autotherapy.* Shute, A. C.

Shute used autotherapy in cases of puerperal septicæmia, postpartum convulsions, mastitis and acute prostatitis with retention of urine; he believed that autotherapy cured these cases although the indicated remedy was also given in three of these four cases. Autotherapy apparently gave temporary relief in a case of pelvic sarcoma.

29. *A Short Resumé of a Year's Surgical Experience Abroad.* Perkins C. W.
30. *A Few Case Reports.* Mills, W. S.

S. B. H.

#### Hahnemannian Monthly, October, 1914.

31. *The Work of the Bureau of Medical Education and Licensure in Relation to State Medicine.* Baldy, J. M.
32. *Pneumonic Fever: Some Clinical Aspects.* Golden, G. M.
33. *The Private Treatment of the Curable Insane.* Bayley, W. D.
34. *Necessity of Routine in Ocular Examination.* Gowens, Jr., H. L.
35. *Acute Circumscribed External Otitis.* Clay, J. V. F.

An excellent discussion of the symptoms, differential diagnosis and treatment of furunculosis of the external auditory canal.

36. *The Present Status of Infant Pneumonia.* Boyer, G. H.

A splendid review of the literature followed by an unusually intelligent discussion.

37. *Infantile Paralysis (Poliomyelitis).* Doyle, W. F.
38. *A Plea for the Scientific in Homœopathy.* Whitmarsh, H. A.

S. B. H.

## THE DEFINITION OF HOMŒOPATHY. A REPLY TO THE GAZETTE.

*Editors New England Medical Gazette,*

GENTLEMEN :—

Your editorial writer, "C. W.," in his editorial remarks on "The Definition of Homœopathy," published in the September *Gazette*, says, "Dr. James Krauss of Boston has taken it upon himself to tell us what homœopathy is and what it is not." I will not attempt to inquire what this statement implies, any more than I will stop to comment on the frivolous and unjust characterizations that this writer, in the assumed security of his editorial chair, permits himself to indulge in. It is no wonder that he cannot appreciate "fiery utterances." The dead editorial horse he rides has no fiery convictions. It is easier to make blanket criticisms, but blanket criticism, he ought to know, is no criticism. It is easier to ascribe motives than critically to illuminate arguments, but ascribing viciousness of motive and confusion of thought, as this editorial writer does when he should examine the points of argument and prove wherein these discrepancies consist, reveals only his own peculiar state of mind. If he had examined fairly and intelligently my remarks on Doctor Sutherland's paper, your editorial writer would have discovered that my motive in entering the discussion was, then, as it is now, solely to help ascertain the truths of homœopathy, in the interest of the science of medicine, of the American Institute of Homœopathy, and of homœopathic practitioners. It is fully apparent to men inside and outside the ranks of homœopathy that what the homœopathic practitioners need to have told today more than anything else is what homœopathy is and what it is not; and if anything had been needed to justify me in my attempt to tell what homœopathy is and what it is not, this editorial in question furnishes that justification: Your editorial writer mistakes and misstates the point at issue, the teachings of Hahnemann and of homœopathy. He attempts to belittle Hahnemann's historic conclusions as dogmatic assertions while stamping his own bald assertions as scientific conclusions. He offers in the place of Hahnemann's comprehensive definition and true content of homœopathy a puerile definition and an illogical, indefinite, untrue content of homœopathy.

1. The point at issue is not the term homœopathy, as your editorial writer declares, but homœopathy itself.

2. "Hahnemann," says your editorial writer, "did not define the noun, but he did define the adjective." The fact is that Hahnemann did not define the adjective any more than he did define the noun, for the good reason that both noun and adjective had been well defined 2,000 years before his time by Plato, Aristotle, Strabo. What Hahnemann defined was his medical creation, the medical content of homœopathy.

3. Hahnemann defined the medical content of homœopathy, in the second paragraph of his Introduction to his *Organon* of 1810, distinctly as the medicinal method of cure, and, in the fiftieth paragraph of his *Organon* of 1833, made the specific addition that homœopathy is the medicinal method of cure through symptomsimilarity. "But," says your editorial writer, "homœopathy is not and should not be confined to the homœopathic method of treatment as defined by Hahnemann or anybody else." Why not? Because, according to your editorial writer, "with the reawakening of the scientific study of problems relating to 'like affections' or similar morbid conditions . . . homœopathy . . . has come to mean (1) the study of like affections (which might properly be termed homœopathology), (2) the relationship of the remedial phenomena of a drug to the morbid phenomena of a disease which it cures, providing the drug produces similar effects on the body to the disease." Has homœopathy not always been, with Hahnemann and since Hahnemann, the homœopathologic relationship of diseases and drugs?

4. Your editorial writer's conception of science and the reawakened scientific spirit in the "study" of homœopathy is to call Hahnemann dog-

matic when, in fact, Hahnemann was the destroyer of dogma in medicine, pathologic and therapeutic; is to state that "Hahnemann began by seeking how medicines cured" when, in fact, he began by seeking how medicines acted in the healthy body; is to state that "once convinced of how" medicines "cured" Hahnemann "built up a method" when, in fact, Hahnemann had disclosed to himself his method in 1790 and waited seven years before he first applied his method; is to state that Hahnemann "satisfied with . . . the practice of his method . . . no longer interested himself with the further study of the relation of disease phenomena and remedial phenomena" when, in fact, Hahnemann's entire life was devoted and successfully devoted to the study of the curative relation of disease and drug phenomena; is to state that "Hahnemann saw in the relief of symptoms the removal of the cause with a permanent cure" when, in fact, with Hahnemann the removal of all the symptoms of the patient, the symptoms comprehending both the subjective symptoms and the objective signs, not the relief of symptoms, is equivalent to the removal of the disease causing the symptoms.

5. With this sort of scientific spirit manifest, can any intelligent homœopathic physician, reading in this "scientific" editorial that "we take exception to Hahnemann and by so doing we draw a very distinct line between the homœopathy of Hahnemann and the homœopathy of today" long hesitate which to choose, the homœopathy of Hahnemann or this editorial writer's homœopathy of today? Hahnemann has given this world a basic method in his homœopathy which no assault can drive from the permanent fundaments of medicine: What has this editorial writer's homœopathy of today given?

6. What is this editorial writer's homœopathy of today? "The work of Burrett and Mellon at the University of Michigan, of Wheeler at London, and the work in the Pharmacological Department of the Evans Memorial. . . ." Why does quinine cure a case of malaria when the symptoms emphatically call for ipecac? And why does arsenic cure another case of this disease when the symptoms point to quinine?" . . . "Distinct disease phenomena quite apart from the subjective and common objective symptoms . . . biochemical reactions," which, "in the absence of symptoms, can be our only guide to treatment." . . . "Typhoid fever develops in an individual in whom it has been previously shown that bryonia produced a strong Widal reaction while no reaction was produced by hyoscyamus. We should be tempted to prescribe bryonia in this case even though the totality of the symptoms called for hyoscyamus." I have gone into this matter somewhat extensively in a paper on Definitions of Homœopathy which is to appear in a forthcoming issue of the *Institute Journal*. The work of the opsonic index men has created no homœopathy, new or old. That the opsonic index can be raised by ordinary drug remedies given homœopathically as well as by vaccines given empirically or theoretically only proves, what we have known long before our opsonic index men stepped into the medical market, that bacterial diseases can be relieved and cured by ordinary drugs. The work in the Pharmacological Department of the Evans Memorial has created no homœopathy, new or old. Or, are we to take the "experimental achievement" of your editorial writer that the action of quinine upon malarial plasmodia outside the body is not, or is not speedily, parasitolytic as a new homœopathy? Or, are we to find the new homœopathy in the other published "experiments" made in the Pharmacological Department of the Evans Memorial with self-contradictory hypotheses, foreign experimental conditions, and the necessarily negative results? Your editorial writer and the laboratory workers he refers to have given us not only no homœopathy but have given us nothing, and, I am safe in saying, will give us nothing unless they will radically change their methods of experimental attack and procedure. When the symptoms emphatically call for ipecac, ipecac will cure, not quinine. When arsenic cures, the symptoms point to arsenic, not to quinine. There are no disease phenomena apart from subjective and objective symptoms. There are no biochemical reactions in the absence of symptoms in any sense, much less in a comprehensive sense. Biochemical reactions which can be guides to treatment are symptoms. When the

totality of symptoms calls for hyoscyamus, the Widal reaction will be among the symptoms of hyoscyamus, provided it will be proved, what has not yet been proved, that drugs will call out Widal reaction when there is no typhoid.

7. There is only one homœopathy and that is the homœopathy of Hahnemann. Your editorial writer disowns the definition and the content of homœopathy as given by Hahnemann and offers in the place of Hahnemann's masterful, understandable, true definition that homœopathy is the medicinal method of cure based upon symptomsimilarity, the curative method of medicinal therapeutics based upon symptomsimilarity, this puerile, illogical, indefinite, untrue definition: "Homœopathy is not a method but a field of scientific knowledge the study of which has evolved a therapeutic method based upon it. This method will continue to be influenced and modified by the advance of those fields of science which concern similar affections." This is the definition of your editorial writer who says that Hahnemann is dogmatic and that the point at issue in *The Definition of Homœopathy* "cannot be argued from a purely scholastic viewpoint."

The definition of your editorial writer is so "lucid" that I may venture to say he does not know himself what his definition means. The definition is illogical in that he makes homœopathy not one thing but three things, the science of medicine, a method based upon the science of medicine, and a method to be influenced and modified by the advance of sciences which are apparently outside of medicine. The definition is indefinite in statement inasmuch as it does not tell exactly what homœopathy is in any one of these three or rather in all of these three assumed parts. The definition is untrue as to fact because the creation of homœopathy and its history for over one hundred years have made it just one thing: namely, the method of curative medicinal therapeutics. The only good there is to this definition is that it proves again, beyond the peradventure of any further doubt, that a correct, comprehensive statement of the representative truth of homœopathy, so that neither friend nor foe may ever miss it, is of paramount importance to the science of medicine, to homœopathy itself and to practitioners professing to practise homœopathy.

So long as there are editorial writers who, like your own, can agree in one paragraph to the definition of homœopathy as a method, only to say in another paragraph that homœopathy is a science and in a third paragraph that "the law that likes are cured by likes is as true today as it ever was, but the when, where and why of it is still imperfectly understood," as though a person who only imperfectly understands a law can be deemed competent to judge whether that law is true or not, or that it expresses homœopathy and the intent of homœopathy, so long will it be necessary for us to make a clear, cogent, comprehensive statement of the essence of homœopathy for the true understanding of what homœopathy actually is as well as for the protection of homœopathy against the wilful or ignorant miscarriage of its tenets.

Where shall we find such a statement? Certainly not in the writings of men who care more for disseminating arbitrary notions of their own than to press to recognition the true teachings of homœopathy.

There can be no question that the definition of homœopathy contained in the proposed amendment of Article I of the Constitution of the American Institute of Homœopathy, to read towards the end of the seventh line: "but especially to secure the general recognition and acceptance of homœopathy as the therapeutic method of symptomsimilarity indicated in medically curable constitutional diseases," instead of the present reading: "but especially to secure the recognition of the law *Similia Similibus Curentur*—the scientific basis of Hahnemann's methods as expressed by him, viz., "*Similia Similibus Curentur*," is correct as to fact, true to logic, scientific in expression.

The Latin phrase, *similia similibus curentur*, expresses no law. Anybody that knows any Latin knows that the expression is only one of direction, of general direction, too. Hahnemann never used it to express his method, which is specific and not general. Nor does it express the scientific

basis of his method. Hahnemann established only one method, homœopathy, not methods. This method is an ultimate itself, a basis for subordinate procedures. That Hahnemann's "laws" referred to these subordinate procedures and were merely his practical directions for what he conceived to be necessary to the best practice of his method, homœopathy, and not natural laws upon which homœopathy, his method of symptomsimilarity, was based, one may easily prove to himself by reading, for instance, paragraph 242 of the *Organon* of 1810, only lately translated into English by Doctor Wheeler. The fear of losing an inexpressive, inapplicable phrase, though hallowed by a century's faulty use, for something apparently new, though giving the exact idea and expression of Hahnemann himself, ought not to assail long an intelligent medical mind. We are, or ought to be more concerned in securing the recognition of homœopathy, the definite curative method of scientific medicinal therapeutics through symptomsimilarity, than in securing the recognition of *similia similibus curentur*, the indefinite Latin phrase of a bastard "law" possible only to medical ignorance, a "law," if we must call it such, permitting the application within its general scope of therapeutic agents and processes with which homœopathy has absolutely nothing whatever to do.

Hahnemann made homœopathy a therapeutic method, the medicinal method of cure (*Introduction, Organon, 1810*). Homœopathy never has been, is not, and never can be anything else than this medicinal method of cure.

Hahnemann made homœopathy specifically the therapeutic method of symptomsimilarity (Paragraph 50, *Organon, 1833*). Symptomsimilarity expresses the specific method of procedure.

Hahnemann made homœopathy specifically applicable to constitutional diseases; that is, to diseases involving the constitution of patients with or without secondary local lesions (Paragraphs 70, 186, etc., *Organon, 1833*). By logic and in fact, homœopathy can be applicable only to such diseases.

As the medicinal method of cure, homœopathy can be applied perfectly only to such diseases as are curable. Homœopathy is indicated in constitutional diseases when these diseases are medicinally curable. Palliation may be incidental, but is not material to homœopathy.

The medicines that are to cure these diseases must be chosen not on empiric or theoretic grounds, nor on arbitrary grounds of problematic "biochemical reactions," but on the scientific ground of symptomeffects of diseases and drugs, on the qualitative similarity of pathologic symptomcomplexes of diseases to drugs or of drugs to diseases, in short, on the ground of symptomsimilarity.

We must make it plain, both for ourselves and those practitioners outside who do not know, that homœopathy is, as it is in fact, the only curative method of medicinally curable constitutional diseases in existence, and this can be done only by adopting and promulgating a definition of homœopathy which carries the authority of Hahnemann, its creator, as well as the authorities of truth, of logic, and of science.

JAMES KRAUSS, M. D.

Chairman of Committee on Definition of Homœopathy  
and on Alteration of Article One of the Constitution  
of the American Institute of Homœopathy.

419 Boylston Street, Boston, Mass.,  
November 25, 1914.

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## COMMENT ON DR. KRAUSS' COMMUNICATION.

Our editorial in the September *Gazette* has drawn the usual fire from Dr. Krauss' pen. In the "security of the editorial chair,"—which security Dr. Krauss has endeavored to render insecure,—we venture a few remarks in behalf of our "peculiar state of mind."

If Plato, Aristotle and Strabo\* defined "both the noun and adjective" 2,000 years ago, and Hahnemann defined "his medical creation, the medical content of homœopathy," why should we wait another 2,000 years before venturing a new definition? It is evident to anyone who has read the *Organon* what Hahnemann meant by the homœopathic method of cure without having to read Dr. Krauss' effusive elucidation which we referred to in our editorial. Have we actually "mistaken and misstated the point at issue, the teachings of Hahnemann and of homœopathy"? Dr. Krauss maintains that homœopathy is what Hahnemann told us it was, and attempts to force down our throats the definition as he, Krauss, has interpreted it from Hahnemann's writings. As a treatise on Hahnemann's idea of the homœopathic method of cure Dr. Krauss' paper in the journal of the American Institute of Homœopathy is very commendable. What we ventured to suggest in our editorial was that the noun, homœopathy, to-day might better be construed to apply to the study of similar affections in its broadest sense, rather than merely to the application of this study to therapeutics. For so doing we endeavored to bring out that much has been learned regarding the relation of similar affections since Hahnemann's day, and that consequently the application of this study to therapeutics must to a certain extent have been influenced by these advances. As a result of this, our views concerning the homœopathic method of treating disease must differ in detail from the views held by Hahnemann. Consequently the concept of homœopathy as expressed by the editor of the *Gazette* differs from Hahnemann's conception of homœopathy as portrayed by Dr. Krauss.

Now Dr. Krauss appears to be disgusted that anyone should dare to differ with Hahnemann, or rather with Krauss himself. Far be it from us to attempt to pacify him on this point. His communication has too clearly demonstrated that his and our attitudes are irreconcilable. When he remarks:— . . . "the laboratory workers have given us not only no homœopathy but have given us nothing, and I am safe in saying, will give us nothing unless they will radically change their methods of experimental attack and procedure," he puts himself with one Dr. J. B. S. King† of the *Medical Advance*, in a class of physicians upon whose minds medical progress exerts no apparent beneficial influence. By this remark Dr. Krauss also furnishes an excellent autogenous illustration of the truth of his statement that "it is easier to make blanket criticisms . . . than critically to illuminate arguments." "He should examine the points of argument and prove wherein these discrepancies . . . self-contradictory hypotheses . . . and necessarily negative results . . . consist." By this remark Dr. Krauss has placed himself so out of harmony with the ideals of the medical profession as a whole, so utterly incapable of comprehending the significance of laboratory and clinical research that a continuation of the controversy with him seems futile.

CONRAD WESSELHOEFT, Assist. Editor.

\* That Plato, Aristotle and Strabo did so is news to us. These authors are not mentioned by Dudgeon in his "Lectures on Homœopathy," or by Hughes in "The Principles and Practice of Homœopathy." In Baas, "Grundriss der Geschichte der Medicin," we find no mention of their definitions of homœopathy. We would appreciate accurate references from Dr. Krauss on this point. Does Hahnemann himself quote the definitions of these ancients, and if so, where?

† For Dr. King's impassioned tirade against these same researches, and against the same editor of the *Gazette*, see the editorial in the *Medical Advance* for October, 1914, p. 1755.

## A COMPLAINT FROM A STUDENT OF MATERIA MEDICA.

*Editors of the New England Medical Gazette,*

GENTLEMEN:—In the August issue of the *Gazette* you comment briefly and rather indifferently upon the fifth edition of Boericke's "Materia Medica and Repertory."

I have been a student of materia medica for twenty-five years and the subject is still a favorite with me. Boericke's pocket book, of over eleven hundred pages, has been on my desk for study and reference for over a year and I recognize and appreciate its good qualities. It is up to date in some respects, and for the most part the remedies and their symptoms are well characterized; *but* why, under pretense of completeness or anything else, should *any* work on materia medica include such subjects as "Skim Milk" (p. 429), "Honey with Salt" (p. 472), "Cane Sugar" (p. 630), "Distilled Herring Brine" (p. 592), "Common Salt" (p. 508), etc., etc.?

Such bosh has no place in a work on materia medica, homœopathic or otherwise, and homœopathic physicians can expect but little consideration from men of science until such nonsense is put aside.

Again, when salt and sugar, both freely soluble, are so common in our every-day food, what reason can be given for advising sugar in "Thirtieth potency and higher," and salt in "Twelfth to thirtieth and higher," as therapeutic agents? I do not question that sick people have made good recoveries while taking such so-called remedies, but it is asking too much to believe that there is any material relationship between such remedies and recoveries. I can match such cases easily by recoveries under mental therapeutics.

In contrast with such attenuated doses of common food stuffs, note on page 412 the deadly Cyanide of Potash recommended in the 2x. "Decomposed Vegetable Matter" (chemical formula overlooked), included in earlier editions of the work under the title of "Malaria Officinalis," has only brief mention, p. 517, under Natrum Sulph. But with our present-day knowledge of malaria and the indefiniteness of such a substance as decomposed vegetation, what can a man be thinking about to allow such delusions to be perpetuated in print at all?

The Repertory is well planned and well executed and is a useful index-guide to homœopathic therapeutics. These are but a few of the observations I have noted during the year that I have used the book. The work contains several remedies, mostly unimportant, which are not to be found in Cowperthwaite, nor in Allen's Primer, but aside from the excellent repertory, it has but little advantage over these older works.

Before the homœopathic school maintains a propaganda or seeks consideration of its claims to therapeutic superiority, might it not be advantageous to clear the dust from our own eyes and unburden ourselves of some of our extravagances and superstitions?

Why damage a book containing so much that is good and useful by mixing in so much trash?

Fraternally yours,  
FRED S. PIPER.

Lexington, Mass.,  
September 28, 1914.

## A REPLY TO DR. PIPER'S COMMUNICATION.

In a letter to the *Gazette* published in this issue, Dr. Fred S. Piper has expressed his indignation at the inclusion of certain substances, which he evidently considers inert, in Boericke's *Materia Medica and Repertory*. He undoubtedly voices the sentiments of the great majority of the readers of the *Gazette*; nevertheless the materia medica section of the editorial staff cannot allow his utterances to pass without comment. His objection to the including of these substances in a materia medica for the use of the homœopathic members of the medical profession at large is to our minds somewhat biased, if not prejudiced.

The book is not compiled for the high or the low potentists. It is compiled for ready reference for the use of any physician or medical student, and is a condensed form of our *materia medica*. Any such work would be considered to contain errors and omissions by each and every physician according to his own ideas on the subject. Based upon our massive volumes of provings the book is merely a brief of the essentials, which, according to the author's idea would appeal to the majority. The author may not himself have any confidence in the therapeutic efficacy of certain substances, but he includes them for the use of those who do. The book is in no sense a treatise, and should not be considered as such. Consequently Dr. Piper's remarks should not have been directed against this compact edition, but rather at our entire *materia medica*.

Our *materia medica* to be complete must include all substances which have been proved, or which have been used with apparent efficacy in the treatment of disease, even though it be milk sugar exposed to moonbeams, providing always that the sources of such provings or "cures" be given accurately. In this case it rests with the individual student to judge for himself the accuracy and reliability of such observations. To the author of this little book in question the observations regarding cane sugar seemed to warrant his including it either because he has confidence in it, or because he deemed that a sufficient number of homœopathic practitioners do. That is, as we have already said, for the individual to decide. Furthermore, the book is written to sell, an element not to be overlooked. A homœopathic pharmacy may prepare medicinal substances for sale, and it is no discredit to the firm if they have no confidence in their efficacy, providing physicians prescribe them for what these substances are. It must be left to the individual, legally registered physician to select his remedies and prescribe as he sees fit. Dr. Piper, therefore, should have confined his remarks to those physicians who prescribe these so-called inert substances rather than to the author of this book or the book itself.

To refer to common salt as "bosh" in a *materia medica* is very rash. Such a term from "a student of *materia medica* for twenty-five years" usually calls forth abusive language rather than intellectual discussion based on logic. The action of sodium chloride is included in most of the best and up-to-date pharmacological text-books, and in some it heads the list of the group of neutral salts. In sufficient dosage it is fatally toxic, and, moreover, it has a very definite action. To exclude it from a homœopathic *materia medica* would be a serious omission, because a homœopathic *materia medica* should contain all drugs having a definite pharmacological action. The argument that because we take it as a food is, to our mind, not well taken. Iron is as essential to the body as sodium chloride. Both are foods to a certain extent, and beyond that, poisons. A normal daily diet contains about 10 milligrams of iron, yet cases of chlorosis are reported to have been benefited by the 3x and higher. The *modus operandi* of iron in chlorosis is no longer considered by the best authorities to be brought about by its presence as a food (because chlorotics assimilate iron as well as healthy individuals), but by a stimulation of the hæmatopoietic organs. The administration of inorganic iron in very small quantities will produce a stimulation of the bone marrow where larger quantities of organic iron in combination with a diet have little or no effect. The fact that the bone marrow is diseased renders it more susceptible to this action of iron. This susceptibility of diseased tissue cells to drugs is no longer a "homœopathic notion." Cantharidin, in a dilution which does not irritate normal tissue, has been shown to irritate tissue diseased with tuberculosis. Just because we daily partake of sodium chloride in our diet is no reason why it should not exert a beneficial action in disease. The question of potency is to be decided by the individual physician, and as yet the high and low potentists have much to learn before making sweeping statements and bold assertions.

The men who venture to attack the homœopathic *materia medica* should remember that those who live in glass houses should be careful about throwing stones. There is a possibility that the use of sodium chloride in the 12x is more justifiable than the use of some preparations of the toxalbumins,

such as snake venoms and apium virus. These toxalbumins—not infrequently dispensed in alcoholic solutions—are precipitated by alcohol, and the alcoholic filtrate is absolutely innocuous, while the precipitate retains its full toxicity when redissolved in water. Moreover, they are readily broken up and rendered inert by oxidizing agents. Sugar of milk is such an agent when time enough is given, and especially when not kept absolutely dry. We do not mean to imply from the above that our homœopathic pharmacopœia is at fault. The directions for making up apium virus explicitly state that it is to be triturated with milk sugar, but in certain homœopathic pharmacies these triturations are only carried to the sixth, eighth or twelfth decimal, and after that run up in alcohol. In regard to Lachesis and Crotalus we are definitely told to make dilutions with glycerin, which we know preserves these toxalbumins indefinitely. But we not infrequently see alcoholic “dilutions” of both these substances in the medicine-cases of homœopathic physicians. The common method of further diluting solutions with alcohol as practised by many homœopathic physicians must often result in their prescribing alcohol from a vial with a deceiving label. How many triturations are kept absolutely dry by the active practitioners? It is not to be inferred that we think Dr. Piper is guilty of this practice. We merely venture to suggest that some who scoff at sodium chloride as an inert substance are perhaps guilty of prescribing inert substances themselves.\*

Dr. Piper’s communication is well worth consideration by the homœopathic school. His criticism of our materia medica should stimulate the readers of the *Gazette* to think over their own prescriptions, and we hope that he has opened a discussion too long dormant among our subscribers. The *Gazette* will gladly welcome any further communications on subjects connected with our over-prized, underestimated and much abused materia medica.

CONRAD WESSELHOEFF, Assist. Editor.

## SOCIETIES.

### Massachusetts Surgical and Gynæcological Society.

The 83rd meeting of the Massachusetts Surgical and Gynæcological Society was held in Pilgrim Hall, Wednesday, December 9, at 3 p. m., President Herbert D. Boyd, M. D., in the chair.

About 200 were in attendance, including members of the Suffolk District Medical Society and the Boston Homœopathic Medical Society, who were invited guests.

After the regular business session, the scientific session under the charge of Clara E. Gary, M. D., of Boston, was taken up. The first paper was by Stephen H. Blodgett, M. D., of Boston, who described the results of four years of investigation into the causes and the prevention of convulsions in maternity cases.

The paper was, naturally, of a very technical nature, but it had interest for the general public in that the observation of over 1500 cases has convinced Dr. Blodgett that such convulsions can be anticipated by comparatively simple tests that a physician can make with his ordinary office equipment, and can be prevented by proper diet if taken in time.

Besides making available the results of his observations, Dr. Blodgett urged all physicians to impress upon their patients the need of coöperation between patient and physician. Prevention, according to his conclusions, is easy; a cure, undertaken after convulsions have developed, is doubtful. This paper was discussed by W. A. Ham, M. D., and Katharine French, M. D., and others.

The second paper was by A. J. Rongy, M. D., of New York City, on “Twilight Sleep in Maternity Cases.” Dr. Rongy, who is connected with the Jewish Maternity and Lebanon Hospital of New York City, reported the use of Scopolamine-Hydrobromid Narcophen in a large number of cases and gave full directions as to details of administration, dosage, etc.

\* The point brought out in this paragraph, though seemingly irrelevant to Dr. Piper’s criticism, is nevertheless pertinent to the subject he deals with. It is not offered as a retaliation.

Among Dr. Rongy's conclusions were:—Standard solutions are absolutely essential.

No routine method of treatment should be adopted, each patient should be individualized.

Facilities should be such that the patient is not unduly disturbed.

A nurse or physician must be in constant attendance.

This form of treatment is best carried out in hospitals, although there is no reason why it should not be accomplished in all well-regulated private houses.

Pain is markedly diminished in all cases, while amnesia is present in the greatest number of cases.

To condemn or advocate a given therapeutic measure without thorough personal investigation is truly unscientific, and not in accordance with the tenets of progressive American medicine. Dr. Rongy's paper was discussed by F. S. Newell, M. D., and Edwin W. Smith, M. D., The third paper was by W. H. Dieffenbach, M. D., of New York, entitled "Treatment of Uterine Fibroids by means of Roentgen Rays."

Dr. Dieffenbach was the first physician in this country to use the Roentgen Ray in the treatment of Uterine Fibroids, and through all these years has watched with interest its scientific development. He reported a case of fibroid tumor cured by means of X-rays, including details of the method by which the treatment was applied. Dr. Dieffenbach predicts that this will be a valuable addition in the treatment of these tumors. This paper was ably discussed by Horace Packard, M. D., John P. Sutherland, M. D., and DeWitt G. Wilcox, M. D.

The officers elected were as follows: President, Charles T. Howard, M. D., Boston; Vice-Presidents, Edward E. Allen, M. D., Charlestown; Mary A. Leavitt, M. D., Boston; Gen. Secretary, Harry J. Lee, M. D., Boston; Assc. Secretary, Ernest M. Jordan, M. D., Boston; Treasurer, C. Y. Wentworth, M. D., Newton Highlands; Auditor, George B. Rice, M. D., Boston; Censors, N. H. Houghton, M. D., Boston; George E. May, M. D., Newton Center; T. M. Strong, M. D., Boston.

At 7 o'clock one hundred and fifty members of the Society sat down to dinner at Young's Hotel.

### **American College of Surgeons.**

The third convocation of the American College of Surgeons was held in the Memorial Continental Hall in Washington on November sixteenth at eight o'clock. The program for the evening was as follows: 7.30—Fellows and Guests assemble; 7.40—Governors assemble; 7.45—Candidates for Fellowship assemble; 8.00—Regents assemble with Honorary Fellows and Guests. Invocation by His Eminence James Cardinal Gibbons. Introductory Remarks by the President, J. M. T. Finney. Presentation of the Roll of Candidates for Fellowship. Conferring of Fellowships by the President. Introduction of Honorary Fellows individually by the Regents and conferring of Fellowships by the President. Fellowship Address by Edward H. Bradford. Concluding Remarks by the President. Adjournment followed by an informal reception to the Fellows and Guests by the Officers of the College.

The President, Dr. J. M. T. Finney, in the course of his introductory remarks, announced that subscriptions to the endowment fund of one million dollars, which proposition has been presented to the College at its annual meeting, now amounted to approximately \$250,000. He predicted that the full sum would be easily secured before the next annual meeting in 1915.

The following named physicians were nominated to replace retiring members of the Board of Governors: Dr. Robert Abbe of New York, Dr. Amos W. Abbott of Minneapolis, Dr. E. Wylls Andrews of Chicago, Dr. Edward W. Archibald of Montreal, Dr. Charles S. Bacon of Chicago, Dr. Samuel C. Baldwin of Salt Lake City, Dr. J. M. Baldy of Philadelphia, Dr. Willard Bartlett of St. Louis, Dr. Carl Beck of Chicago, Dr. E. H. Beckman of Rochester, Minnesota, Dr. Frederic A. Besley of Chicago, Dr. Arthur Dean Bevan of Chicago, Dr. J. F. Binnie of Kansas City, Dr. Dougal Bissell of

New York, Dr. John Bapst Blake of Boston, Dr. R. J. Blanchard of Winnipeg, Dr. Joseph C. Bloodgood of Baltimore, Dr. Rupert Blue of Washington, Dr. Hermann J. Boltdt of New York, Dr. John W. Bovee of Washington, Dr. George E. Brewer of New York, Dr. W. B. Brinsmade of Brooklyn, Dr. LeRoy Broun of New York, Dr. John Young Brown of St. Louis, Dr. Truman W. Brophy of Chicago, Dr. Herbert A. Bruce of Toronto, Dr. William Evans Bruner of Cleveland, Dr. Coleman Graves Buford of Chicago, Dr. Frank E. Bunts of Cleveland, Dr. James Burry of Chicago, Dr. Henry T. Byford of Chicago, Dr. Hugh Cabot of Boston, Dr. W. P. Carr of Washington, Dr. John G. Clark of Philadelphia, Dr. Clement Cleveland of New York, Dr. E. A. Codman of Boston, Dr. Robert C. Coffey of Portland, Oregon, Dr. Royal S. Copeland of New York, Dr. W. L. Cousins of Portland, Maine, Dr. George W. Crile of Cleveland, Dr. Walter G. Crump of New York, Dr. Thomas S. Cullen of Baltimore, Dr. E. P. Davis of Philadelphia, Dr. F. G. DuBose of Selma, Alabama, Dr. J. M. T. Finney of Baltimore, Dr. George Gellhorn of St. Louis, Dr. Burton Haseltine of Chicago, Dr. C. E. Sawyer of Marion, Ohio, Dr. George R. Southwick of Boston, Dr. DeWitt G. Wilcox of Boston.

Many of the leading fellows of the College knew of the long and careful consideration which the Regents had given the request made by the American Institute Committee, appointed at the Denver meeting, that the Institute should have the same standing in the College which the American Medical Association had. They also know the opposition which such request had received from certain of the Regents, and the equal insistence made by the Institute Committee that it be granted. Representatives were at once appointed from the Institute as members of the Board of Governors.

The extreme fairness toward the homœopathic surgeons displayed by the Membership Committee of the College has been very conspicuous. A larger proportion of homœopathic surgeons recommended to the College for membership have been made fellows than from the old school. The following statement was made relative to candidates for Fellowship:

"In presenting the following list of Fellows the Central Committee on Credentials wishes to announce that 1,000 additional applications for fellowship had been received previous to November 1, 1914. All applications that were in the hands of the Committee on that date will be considered on the same basis as heretofore and acted upon as expeditiously as possible, the successful applicants being presented for fellowship at the next convocation."

The following were made Fellows at the Washington Convocation: Neidhard H. Houghton, Boston; G. Forrest Martin, Lowell, Mass.; Leon S. Loizeaux, New York; Stanley W. Pallister, Brooklyn, N. Y.; John F. White, Port Chester, N. Y.; Carl H. Rust, Cleveland; Henry H. Wiggers, Cincinnati; Henry C. Jefferds, Portland, Oregon; Leon T. Ashcraft, Philadelphia; Theodore L. Chase, Philadelphia; John D. Elliott, Philadelphia; D. Bushrod James, Philadelphia; John E. James, Jr., Philadelphia; D. P. Maddux, Chester; Herbert L. Northrop, Philadelphia; Gilbert J. Palen, Philadelphia; William A. Stewart, Pittsburgh.

D. G. W.

### **The Next American Institute Meeting To Be Held in Chicago, July 6-12.**

It would appear that the trustees are having something of a "tempest in the teapot" in deciding upon the place of meeting for the 1915 session of the American Institute of Homœopathy. A special meeting held in Chicago, October 9th, at the call of President Miller, resulted in the selection of Portland, Oregon. But at the regular annual meeting of the Board, held in Marion, Ohio, December 12th, the action of the October meeting was not ratified, and Chicago was selected as the place of meeting. The vote was between Portland and Long Beach, N. Y., and Chicago was a compromise between the two extremes.

# THE NEW ENGLAND MEDICAL GAZETTE

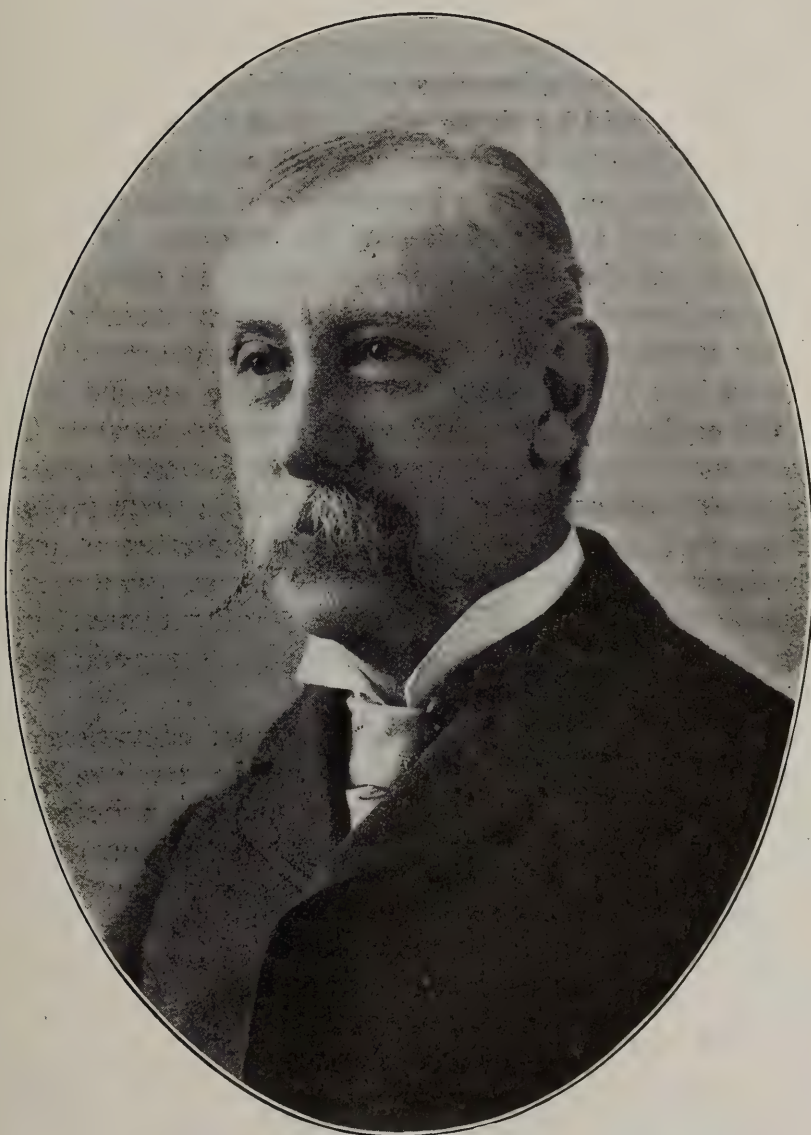
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THE LATE JAMES B. BELL, M.D.

Whose obituary appeared in our December, 1914, issue.

## ORIGINAL COMMUNICATIONS.

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### THE HIGHER EDUCATION IN SURGERY.\*

#### Fellowship Address.

By EDWARD H. BRADFORD, M.D., F.A.C.S., Boston.

The American College of Surgeons has shown such remarkable vigor in its development that there is every reason to believe it will become a most important agency in the advancement of American Surgery. It may therefore be proper to call to your attention a few suggestions for the consideration of this organization relating to better education and training of our surgeons.

It has been said by those who undertake to study the American people that the typical American, although energetic, resourceful, and venturesome, lacks a knowledge of fundamentals. He has the defects as well as the virtues of the pioneer. Are these traits characteristic of the American surgeon? If they are, the fact should be reckoned with in our plans for the training and education of our surgeons. We should foster the energy of the pioneer and give to him the fundamental knowledge needed by a master.

In the early days the aspirant in surgery became the student of the nearest active practitioner to whom he could attach himself. He was an articulated assistant. After a while he ventured upon practice alone, and in the rough school of experience, competition, and emergency, he developed force. Later, groups of forceful men associated themselves together and formed proprietary schools, and the country was filled with energetic aspirants in surgery.

There are advantages in this system of education in a large, new, and unsettled country—the training fits the locality. It does not, however, tend to develop thoroughness or scholarship.

The European method of educating surgeons was to collect students in the large cities, where they were taught by learned men the fundamentals of knowledge in medicine and surgery. They learned anatomy and were stimulated by watching the great surgeons at work in their hospitals. Besides learning the essential principles they acquired high standards.

The product of the American system of educating surgeons has been excellent. There have been developed some remarkable men and as alert and resourceful a body of skilled surgeons as can be found in any country. But can we claim to have produced many of those who have done most to influence the surgical

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\*Address made at the convocation of the American College of Surgeons on December 17, 1914, at Washington, D. C. Worthy of careful reading by every surgeon.

thought of the world? We developed Ephraim McDowell, but we have yet to produce a Lister.

In this connection it is interesting to reflect upon how much more America, a professedly peaceful country, has done to revolutionize the science and art of war than the humane art of surgery. The advance in open order, field entrenchment for the attacking army, the use of cavalry in long raids on the enemy's lines and as mounted infantry, improved implements of war, the rifle, the automatic pistol, the Hotchkiss gun, and in naval warfare, the ironclad, lateral shell firing, the torpedo, the mine, the submarine—all are products of American invention, or first shown to be of value by American example. The field telegraph, the heliograph, the telephone, and the American invention, the flying machine, have revolutionized war. During the same period surgery has been revolutionized, but how much can we justly claim that America has contributed to the marvelous changes wrought in the last fifty years?

There is another criticism of our present surgery, applicable to all modern surgery, but perhaps more so to this country as it is especially exemplified in our surgery. It is claimed that surgery today is overdone; that as in the past there was polypharmacy, today there is polysurgery, and that there is danger of needless, heedless operating. Are there just grounds for this accusation?

If we can imagine the great masters of surgery of the last century looking down upon a modern surgical amphitheatre, can we not fancy that they would be filled with astonishment, perhaps also with horror? Horror in the thought of the many lives sacrificed in former times through the ignorance of the simple laws of asepsis, but also horror perhaps at the number of operations done now, where Nature, if given a fair opportunity, could cure and perhaps cure more satisfactorily.

If the surgeon in the past, more than his modern successor, killed in his operations, he maimed less. Afraid of a possible fatal result he operated only to save life—never to determine the nature of the disease; exploratory operations were unknown. Today an operation is too often undertaken on a chance of benefit; subsequent operations follow to relieve the scar tissue caused by the first operation, which, unsuccessful in furnishing relief, was thought successful in that the patient did not die but lived with symptoms somewhat relieved by changed environment.

Do not modern conditions favor the development of surgery of this type rather than the training of the surgeon who knows when not to operate? It is unquestionably the function of this organization to promote the development of surgeons who are not simply hands for such general practitioners as, unable to make a diagnosis or direct further treatment, turn for help to their more

venturesome colleagues. There should be surgeons of broad minds thoroughly familiar with methods of diagnosis and capable of forming a judicial opinion as to the relative value of both operative and non-operative treatment.

Surgery in its lower grades may be a specialty requiring chiefly the skill of trained hands, but the master surgeon covers the whole field of the art of healing. The corps commander today must be trained as an engineer, but if he is only that he will never prove himself a great commander.

Fortunately for our profession and for the community there exist influences which can check the narrowing and debasing influences which hinder the full development of the science of surgery among us. Schools, hospitals, research institutions, surgical societies, universities, and an organization such as this American College of Surgeons can aid powerfully in promoting the elevation of the noble art of surgery to a higher plane that it has ever attained before.

Our medical schools today have, thanks to the energy of our medical profession and the influence of the American Medical Association, been brought to a standard state of efficiency, and no medical student can become a practitioner who has not received a proper knowledge of the fundamental sciences. When he reaches the stage of practice, he should know how to use his knowledge on lines of trained reasoning, or appreciate the arguments of those who do.

If the graduate desires to practise surgery, he should be trained as a dresser and should, after finishing his medical education, have opportunities for technical training in surgery by service in hospitals that need properly qualified assistants in surgery and residents.

The hospital should do more than give positions to young men who help in the surgical work of the hospital; they should arrange for their careful training in surgery.

Endowed hospitals today should not be content to care merely for the sick in their wards; they should aid in the combat with disease. There should be connected with every hospital, not only nursing and operating facilities, but also agencies for determining the ultimate results of operative procedures. The hospital should be a clinical laboratory for the acquisition of knowledge relating to the surgical care of those surgically afflicted. A proper valuation of surgical methods is essential, and for this terminal results must be tabulated. This can only be done by efficient organization; it cannot be properly done by the desultory efforts of a few energetic surgeons.

Research and animal experimentation are aids; but experi-

ment being impossible in the human animal, sound generalization is only possible when based upon a large number of carefully recorded cases collected in large hospitals and studied by a number of trained observers. This is the proper work of hospitals, and they should be rated according to their efficiency in such work.

From hospital residency the young surgeon can develop further as a junior associate to a broad master in surgery, who should encourage such association and should promote individual effort and independent thinking of the properly trained who seek to advance themselves to mastership by thorough preparation and carefully considered experience.

Much work by an association like this is needed to promote a proper knowledge in the community of the need of coöperation of hospitals in the work of the development and education of surgeons. It is not only in the arrangement for dressers and residents that this is needed, but also in a suitable arrangement of the services of attending surgeons, that it may be possible to utilize the experience gained for the benefit of the science of surgery. Short services, interrupted services, services so arranged that generalization in regard to methods is difficult, if not impossible, are too frequently provided for in hospital organization. The surgeon spends his energies centering his attention upon individual cases, presenting few surgical problems, and is unable to devote his time to the larger problems of the treatment of disease in general. The younger surgeon may be perfectly competent to take care of the individual case, but the surgeon of experience with various methods should be given an opportunity to direct the treatment and to determine the value of improved methods. In many cases this causes disarrangement of existing hospital services, but where the authorities are aware of the need of such changes they can be brought about to the benefit of surgical science.

The road to the leadership in surgery is a long one. If "art is long," surgery is longer. It may take but little time to teach a man to play the violin, but for a virtuoso—a Kreisler—years are needed. How much more is required to develop a Mayo, a Kocher!

How much can our societies aid in the better education of surgeons?

The only real education is self-education. This is helped by opportunities of comparison with others; the discussions of colleagues reveal individual strength and weakness.

Surgical societies should be organized so as to promote the careful study of surgical problems, the value of methods, a proper standardization of treatment, and should discourage the exploita-

tion of individual success. Little benefit could come from a meeting of Jack Horners, though a discussion among them might furnish entertainment. Coöperative work among surgical societies would be of great value in the direction of study, the promotion of interest, and in the elevation of standards.

A more difficult matter suggests itself in the question of the bestowal of proper degrees and titles. The public has become trained with more or less accuracy to distinguish between the incompetent and proficient in music. Would it not be well if there could be some accepted standards of recognition of the trained and judicious in surgery, as compared with those whose qualities are chiefly energy and boldness, driving forward an untrained mind—who are, in short, surgical adventurers? Masterly skill in surgery is not a quality easily recognized by the public. The death rate was formerly a check to the injudicious surgeon; today, thanks to asepsis, there should be no death rate, and it is hard to follow the trail of failure among the convalescents who rejoice in a recovery from what has seemed to them the jaws of death, nursing their impaired activities with satisfaction in the thought of what might have been and what they think they have escaped from.

Could it not be a function of the American College of Surgeons to aid in a movement to standardize surgeons? There are apprentices, journeymen, craftsmen, masters, and past masters in the arts. Could we not help the community if we were to grade and rate surgeons as assistants in surgery, *i. e.*, medical graduates, bachelors in surgery, masters in surgery, doctors in surgery? Should there not be a high degree of honor for great surgeons comparable to that awarded to statesmen or lawyers in the Doctor of Laws?

American surgery will be advanced if there are developed in this large country of ours several foci where the art of surgery is practised and taught in the highest degree of excellence. It is a great satisfaction to the observer to see, already, centers developed where the work is worthy of the careful consideration of the leading surgeons of the world. An increase in the number of these places where the science of surgery is investigated and the art of surgery efficiently practised cannot fail to produce results which will, in time, claim leadership in surgical thought.

A few words only are needed in regard to the question of what may be termed surgical ethics, a subject which cannot be ignored by an association like the American College of Surgeons, which is to maintain the standards of our profession.

If it is borne in mind the great opportunity which exists for the gross misuse of the power the surgeon holds it might seem extraordinary that so little of gross commercialism or base malpractice exists. The surgeon at the head of a small private hospi-

tal has power greater than that of a czar. Under an organization trained by himself, with no one but his attendants to criticise his activities, he wields a power controlled only by his conscience and his higher instincts. It may be said that in the process of his education and in contact with his fellowmen no one can rise to eminence in surgery without an education which elevates him from the baser temptations which are more potent in other callings. It certainly is true that in this commercial age medicine and surgery are less commercialized than any of the other large human activities. Machiavelli, the great thinker of the period of the Renaissance, held up the standard of the ideal prince whose craft and deceit were regarded as the proper functions of the ruler and statesman, but we have no evidence that the surgeons of that time were other than truthful and honest.

Today the philosophy of the superman, that might makes right, will never find acceptance in our profession. As the soldier must have courage, and the priest and clergyman purity, the surgeon must be human.

It cannot, however, be ignored that the danger of lowering the standards among young and ambitious surgeons, eager for the renown and emolument of a large practice, is something which must be considered by an organization like the American College of Surgeons. There can be no compromise in this matter. Any one practising the art and science of surgery who is unmindful of the high responsibilities and duties of his profession should receive immediately the condemnation of his fellows. The true surgeon should be, like Cæsar's wife, "above suspicion"; he must be above reproach.

It can be said that the occasion is ripe for the higher development of surgery in America. How long the present Balkanization of Europe is to continue, and how much chaos is to result, no one can tell, but it is certain that the Mexicanization of North America will stop at the Rio Grande. If we have peace, we have also the responsibilities which come with the blessings of peace, and these are to be regarded as held by us in trust for the benefit of the human race.

It is worthy of notice that at the present time when we are in the confusion and welter of war and in the upheaval of traditions, when the foundations of our civilization seem to be shaken, when new philosophies arise to confuse the question of right and wrong, when the power of strength seems to overthrow the sense of the brotherhood of man, when art is trampled upon and force enthroned, when laws and treaties are disregarded, that the one profession whose value is unquestioned is that of the surgeon. Never was there a time when our art commanded greater respect or de-

served it more than at present. It is, therefore, unquestioned that the development of this noble branch of the great science of medicine is a work which deserves the earnest effort of all associations organized for the help of human kind.

It is not simply in the carrying trade or as bankers that we should aspire to leadership. Primacy in the noblest and most humane science and art comes to us now as a duty.

Modern surgery may be said to have begun in France over a hundred years ago through the leadership of a brilliant group of surgeons, who were followed by an illustrious school of British surgeons. Then came the wonderful rise of German surgery to which we are all such debtors. Are we to remain followers, provincials, notable chiefly for our ability to adopt the example and teaching of others?

In the literature of our art there are names before which we all do reverence—Dupuytren, Larrey, Nelaton, Brodie, Paget, Lister, von Langenbeck, Billroth, Volkmann. They were thought-compelling masters who shaped the surgical science of a century.

What names are to be written now upon the open book of the history of surgery? Is there not a page ready for the names of great Americans who will give to the noble art of surgery a luster never known before?

It is the proud function of the American College of Surgeons to aid in the advancement of the higher education in surgery. The American surgeon will never lack skill, energy, nor resourcefulness; to these must be added wisdom.

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### THE ABATEMENT OF PROSTITUTION.

By DR. EDWARD BLECHER HOOKER, Hartford, Conn.

The social evil, whether in the form of private immorality or that of prostitution, is a most complex problem, whose solution has baffled the wisest minds of the ages that have gone and will puzzle those of the ages to come. But because its solution has been considered hopeless in the past that is no reason for utter hopelessness as to the future, for until recent years no effective efforts have been made to study the question scientifically, to investigate accurately the factors composing it and determine what remedies, if any, can be applied to this social disease. This conception of the futility of accomplishing anything remedial is so firmly fixed and so prevalent that efforts in this direction always encounter opposition at the outset even from those who would like to see the evil lessened. Men say, "O, what's the use? You

can't change human nature. Prostitution has existed since the beginning of the world and it will continue to the end. Just so long as men and women have passion they will find ways of satisfying their desires." That is largely but not wholly true. Moreover, it is the opinion of those who have not studied the problem thoroughly, who generalize without knowing all the facts in the case. And if true it is almost beside the question.

Prostitution exists in a number of forms, but in every form there is always the monetary element. The woman sells herself for a price, whatever it may be, and the man pays the price—and usually a good deal more. There is, therefore, in studying this problem, an immediate distinction between prostitution and what may be defined as private immorality, that is, the illicit sexual relation of men and women, the motive of which is not the gain of money, but the expression of love or the gratification of passion. This distinction at once modifies and narrows the problem, for we are not now studying immorality in every phase, but prostitution alone.

Prostitution, as already stated, exists in several forms. The first of these is what may be called public prostitution, the women living in houses of ill fame, in varying numbers, receiving their pay not from the men they entertain, but from the keeper of the house. Out of this form of prostitution, and inseparable from it, has grown the white slave traffic. The two together form what is known as commercialized vice, that form of the social evil in which the unfortunate women not only sell themselves for a price, but others, more wicked than they, exploit them and make money out of them.

Another form of prostitution is known as clandestine. These prostitutes live in their own rooms, singly or in small groups, receive their pay directly from the men they entertain and are not controlled by keepers—unless they happen to have pimps to support. The prostitutes thus far considered depend wholly on their illicit trade for their livelihood. There are others, semi or occasional prostitutes, who work in stores, restaurants, shops, etc., who from time to time add to their income by receiving men in their rooms, or by going with them to houses of assignation or hotels.

Three factors enter into prostitution and into every form of the social evil—the man, the woman and the opportunity. To begin with the woman factor. Why do women become prostitutes? The main reason, the overwhelming reason, is that men demand sexual gratification, and so strong, so imperative is this demand that women supply it. I do not assert that women are without passion, but that men are so much more passionate that they are

the pursuers of women in the great majority of cases. Without doubt there are women with abnormally strong sexual desire, who tempt and lead men astray. Such women are exceedingly dangerous, and in any class of society and in any community are likely to do much evil, but they are the exception, and it cannot be denied that man's desire is the main reason for woman's downfall. I do not mean that women already prostitutes do not entice men, but that the first step downward is taken, in most cases, because some man induces the girl to take it. This element of the woman factor is therefore really a man factor and will be considered more at length later.

Another reason why women become prostitutes is because a large percent of such women are mentally defective. They have the physical development of 18, or 20, with the desires and passions of women of that age, but with the mental development of children of 9, or 10, or 12, and with the comprehension of their surroundings, of the meaning of life, of its responsibilities and dangers, which normal girls of those ages possess. No wonder they succumb to the temptations which pursuing man alluringly offers them.

The study of prostitution brings us at once to another problem—that of the mentally defective, the feeble-minded, a subject of very great importance, affecting not only prostitution, but poverty, intemperance and vice in every form. We should therefore have a clear conception of what feeble-mindedness is. The term has a definite meaning which has become generally accepted, formulated by the Royal College of Physicians of London. Feeble-mindedness is defined as “a state of mental defect from birth, or from an early age, due to incomplete cerebral development, in consequence of which the person affected is unable to perform his duties as a member of society in the position of life to which he is born.” A feeble-minded person, or moron, as he is called, is “one who is capable of earning a living under favorable circumstances, but is incapable from birth, or from an early age, of competing on equal terms with his normal fellows, or of managing himself or his affairs with ordinary prudence.”

Investigations and surveys have demonstrated that about one person in every two hundred is feeble-minded in this country. In New York City, for instance, 2 per cent, or about 15,000, of the school children are feeble-minded. If half of these are girls it is certain that out of this group of 7,500 will come a larger number of prostitutes than from any other group of the same size, since they are less able to understand or to resist the temptations which beset them.

The belief is widespread that working girls become prostitutes

because of the low wages they receive and that a higher wage, say \$9 or \$10 per week instead of \$6 or \$8, would prevent their entering the ranks of prostitution. Careful investigations do not bear out this view. It is undoubtedly true, however, that the environment, the home life, the social status in effect, have much to do with determining their course of life. A commonplace home, lack of pleasant society and amusement, are likely to drive a girl to seek companions and pleasures outside the home, and if both companions and pleasures are of a sort to make her think lightly of virtue she may be led astray, when she would have perhaps been safe in the right sort of home.

A second factor in prostitution is the opportunity. However great the desire of both parties to the transaction, if the opportunity for sexual commerce is not obtainable the commerce is prevented. Here the police powers of the state and community can be employed and we should have a clear conception of just what can be accomplished and what cannot. It is right here a misunderstanding is likely to occur. It is true that men and women cannot be made virtuous by statute and ordinance. Honesty and virtue are traits of character and character is formed by education and growth, not by law. Nevertheless, while admitting the futility of attempting to make people virtuous by legislation, we can and we should make the opportunity for vice as difficult and dangerous as possible. We pursue this course in regard to theft, burglary and arson, why not against prostitution?

As a matter of fact, there is legislation enough, but the laws are not enforced. The practical questions are, can the laws against prostitution be enforced and is it worth while to enforce them? The answer is, Yes. The laws can be enforced and their enforcement is the first and most important step in the abatement of prostitution. The houses of ill fame in any community can be closed and kept closed, provided public sentiment is sufficiently aroused to demand it. Note that I do not assert that prostitution can be thus abolished, but only that houses of ill fame can be put and kept out of business. This has now been done in many cities, large and small, and the number that is changing from the old policy of toleration and segregation is constantly increasing.

Of Hartford I can speak from personal knowledge with a fair degree of accuracy. In the fall and early winter of 1911, public sentiment was aroused by disclosures of a particularly nasty state of affairs, and about the last of December the Mayor ordered the police to close all the houses of ill fame. They were closed and for nearly three years there has not been such a house doing business in the capital of this state. Several attempts to open in a small way have been made, but the houses have been closed in a

few days. What Hartford has done, every city, every community in this state can do if it will.

It may be fairly asked, and should be asked, what has Hartford gained? What will any community gain by this course? Are there fewer prostitutes? Is there less prostitution? Is there less venereal disease? Is there less temptation to immorality? Before answering these questions the distinction already made between private immorality and prostitution should be borne in mind and also the distinction between public and clandestine prostitution.

Commercialized vice is possible only when houses of ill fame exist. Without them the white slave traffic cannot be carried on. While admitting that the closure of these houses does not prevent women from selling themselves to men, we can safely assert that it does prevent other men and women from making a profit in this sale. In other words, it strikes a blow, and a hard blow, at commercialized vice. This is a most important step in the war against prostitution. It is often asserted that this closure scatters prostitution all over a city, that it is safer to segregate it and keep it within a certain definite region. This is an exploded idea. Segregation never segregated; it is a center from which the social disease spreads. And it could not be more harmful if it did scatter either. Closure has not scattered it in Hartford; there are fewer prostitutes and less street walking. The police are not now in partnership with the proprietors of houses of ill fame and the city is not a partner in the commerce, as it was when it fined the girls once or twice a year and then sent them back to their houses to earn the money to pay the fines.

There is less venereal disease when the houses of ill fame are closed. Their inmates each entertain from one to thirty or more men per night when the houses are open. The clandestine prostitute in her room receives usually only one or two men per night, hence the number of men exposed is materially decreased. I am, however, in favor of one form of segregation. As already stated, about 2 per cent of school children are feeble-minded. All school children should be examined and the defectives discovered. These feeble-minded children should then be given special instruction according to their various abilities and should not be taught in the regular classes. When these girls reach the child bearing age those who have not advanced to such a degree that it is safe to trust them in ordinary occupations and surroundings should be restrained in homes for the feeble-minded. That is, I believe in the segregation of these girls from men when they are young and not in their segregation for men when they are older.

A reformatory for women is greatly needed in this state, not only for the inmates of the houses of ill fame, but for the clandes-

tine prostitutes and other female delinquents. Jail is no place for them. They should be sent to an institution under state control, where they can be scientifically studied and their diseases of both mind and body properly treated. A considerable per cent of these women can be reformed, taught occupations and restored as constructive and not destructive members of society.

Not only should the house of ill fame be closed, but the disorderly saloon should be suppressed. The part which the disorderly saloons and restaurants play in the furtherance of clandestine prostitution is very important.

Every community can do valuable preventive work. Wholesome amusement should be provided, especially outdoor recreation. Places of evening amusement should be supervised and watched, as in and about these resorts opportunity and temptation occur. Women policemen should be appointed in every city, for women with authority can often influence and protect young girls better than men.

So much for the woman factor and the opportunity, necessarily inadequately treated in the time at our disposal. There remains the man factor in the problem of the social evil and of prostitution.

Since the dawn of creation there has been implanted in the male animal a desire for sexual gratification which has not diminished as evolution has gone on. Nor has this desire decreased in man as he has emerged from savagery into civilization and risen higher and higher in social development. This desire is a perfectly natural physiological craving. Without it the race would perish. There is nothing intrinsically impure or shameful in possessing it. It is the lack of control of this appetite that is harmful and shameful. Divine wisdom and human experience unite in the decision that the highest good of mankind necessitates definite regulation and restraint in the sexual relations of men and women. No man or woman need be ashamed because endowed with sexual desire so long as self-control is maintained.

While this desire has not decreased with the progress of civilization, I am convinced that man's control of it is greater than in earlier times. I hold this opinion in spite of the immorality, the prostitution, the white slavery that exist today.

In this self-control of passion lies the hope of the slow, gradual decrease of the social evil. What therefore can be done to help men exercise greater self-restraint? Begin early with the children and tell them the truth about themselves. Answer truthfully and wisely their questions and the questions they do not dare ask. The first nine years of life are in some respects the most important in the formation of character of the whole life. The

senses are wonderfully alert, the brain receptive of impressions and the memory is remarkably retentive. It is of the highest importance that impressions indelibly implanted during these years should be of the right kind. Therefore do not be afraid to inform the children according to their capability to understand. With the statement of facts hold before them high ideals of manhood and womanhood. Do not refrain from telling them what they ought to know because you wish to keep them pure and innocent. While you—their parents—are refraining someone else is imparting wrong ideas instead of right ones.

I admit that a man may be very highly educated in the usual sense of education. He may be learned, cultured, yet immoral. But there are various kinds of education. While developing the mind it is possible to develop the moral nature as well, and this is the kind of education which will make for self-restraint. Take two boys for instance, and, for the purpose of argument, admit they are equal physically and mentally and have the same environment. Give one of those boys instruction in sex physiology and hygiene, as fast as he can assimilate it; hold before him as he progresses the dangers to health from immorality, inculcate in him high ideals of the relations of men and women and the strength which comes with restraint. Let the other boy alone—preserve his innocence (so-called)—do not destroy his purity—do not fill his mind with sex thoughts. Which boy will be more likely to become a continent, self-restrained man, worthy of being the husband of a noble woman and the father of children? In my mind there is no question which. Or take two groups of boys and handle them in these different ways. Out of which group will come the larger number of clean men and out of which group will emerge the larger number of unclean ones? Who can doubt?

One reason why men have been licentious in the past and why we may hope they will be less so in the future—a somewhat remote future I admit—is the doctrine of physiological necessity. Physicians have taught, and unfortunately some still teach, the erroneous doctrine that continence and health are incompatible. For the great majority of men it may be emphatically asserted that the highest degree of health is entirely compatible with absolute continence. There are exceptions to be sure, but those exceptions are pathological and not normal. I do not say this restraint is easy or agreeable but is entirely possible.

Another reason why we may hope that men will be more self-controlled as time goes on is that we know now how dangerous, how terrible are the venereal diseases from which prostitutes are practically never free, and with whom intercourse is never safe. When a young man fully realizes that a house of ill fame, or the

rooming house of the prostitute, is more dangerous than the pest house of small-pox he will be less liable to enter therein.

Therefore I am not altogether without hope that the social evil may from generation to generation become less of an evil because men have greater fear of the consequences of licentiousness and higher ideals of manhood and greater strength to keep themselves worthy of carrying on the race. They will realize more and more the tremendous responsibility assumed in bringing a new life into this world, of starting a new soul on its unknown career through the eternity of time.

This desire in man, almost stronger than any other desire he possesses, when rightfully exercised, leads to the tenderest and most beautiful relations of human life, the love of wife, the establishment of the home—the very flower of civilization—and the love of children, the noblest emotion man is capable of feeling and which death itself is powerless to destroy. This passion uncontrolled, abused and misused, leads to degradation, unhappiness, suffering and misery, not only for the man himself but for others, innocent victims of his selfishness.

We must not ask or expect too much from the suppression of the houses of ill fame, though their suppression is the first and imperative procedure in the warfare against commercialized vice. But however inadequate this may be it is nevertheless well worth doing and doing thoroughly. No community that takes this position will ever regret it. Real progress in the abatement of prostitution will come only through the slow growth of the race to clearer understanding and a greater self-control.

Is it too much to hope that not simply in God's own time, but in man's own time, there may come a race of young men and young women, in whom there shall be innocence and knowledge and purity, who will lift the standard of private and civic morality a little higher each generation? I believe the present agitation of this subject, unpleasant though it may be in some aspects, and in some instances carried to excess, is a righteous movement and will lead to a lessening of the ancient evil, not utterly hopeless because so old, for we are attacking it with a better understanding and, let us hope, with a new conscience.

## TREATMENT OF UTERINE FIBROIDS BY MEANS OF ROENTGEN RAYS.

By WILLIAM H. DIEFFENBACH, M.D., Professor of Physical Therapeutics,  
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Through the efforts of the so-called Hamburg and Freiburg schools the use of the Roentgen ray in the treatment of uterine fibroids has recently been vigorously brought to the attention of the profession, and many physicians are interested in the pro's and con's as to the value of this procedure.

Inasmuch as a new treatment such as this attacks the interests of the surgeons, it is quite natural that active and passive objection should be forthcoming, in many instances, from our surgical confrères.

In view of the low mortality and the general success of surgery in fibroids, conservatism is certainly justified. If ever surgeons have a right to raise their heads and feel conscious of success, it is in the operation upon myomata, and to have enthusiastic X-ray specialists dispute this field with them appears presumptuous unless a clear title to superiority can be established.

It will be the effort of the writer to clearly define the sphere of surgery and of Roentgen ray therapy, by comparative indications and contra-indications for the respective procedures.

As a matter of historical value the writer desires to quote from the *N. A. Journal of Homœopathy*, October, 1904, pages 679 to 680, from the department of Electro-Therapeutics conducted by him at that time.

"September, 1904, 'Advanced Therapeutics' contains an article by J. Hett, M.D., entitled 'The Complete Absorption of a large Uterine Fibroid by X-Ray,' in which the author claims an apparent cure of a large intramural fibroid by means of X-radiation. His technic was as follows:

"The abdomen and chest were well protected with sheets of lead and the opening for the rays was covered with celluloid. Vaseline was also applied freely to the abdomen for protection against a burn.

"Daily treatments were given through the abdominal walls until a slight dermatitis showed itself on the twenty-third day and then a ten days interval was given, when the redness of the skin disappeared. Ten treatments more were given and the patient advised to return home and await results.

"A hard tube was used, excited by a 16-plate Wimshurst Static Machine, about 15 inches distant, with 15-minute exposures.

"At the end of the treatment no diminution of the growth was

noted, only a very slight browning of the skin. The hemorrhages, however, ceased and there was less pain. After a few weeks, during which patient developed X-ray dermatitis, an examination showed disappearance of the entire tumor and entire cessation of hemorrhages."

We quote this article in extenso for the reason that during the past year we had a similar experience, the details of which follow:

"We have hesitated about writing or speaking of the subject before, but as Dr. Hett's case corroborates our experience, we feel that the matter should receive due publicity and other X-ray workers be stimulated to test the treatment when advisable. Both cases, it is true, may prove to have been exceptional, but test by others will soon prove or disprove this assumption.

"Case of Mrs. H., aet. 36. Called on recommendation of a friend to be examined for abdominal distress and frequent uterine hemorrhages. Examination revealed one large intramural fibroid near the right fundus fully as large as an orange, and several smaller rounded protuberances to the left of the cervix. Patient was otherwise in excellent health and we promptly advised surgical removal of the uterus, pointing out the comparative low mortality of these operations if performed in time. The patient's reply was, 'Doctor, my dearest friend died under the knife, and I refuse to be operated. I came to you to be treated by the X-ray and want you to do what you can for me.' Patient was advised that no case had as yet been reported to our knowledge in which fibroids had shown shrinkage under X-ray, and that no literature could be found on the subject.

"Theoretically we thought that the growths might be affected, but we had no facts to go by. We distinctly insisted that if no improvement was secured within a reasonable time patient would be discharged unless she would submit to surgical measures. Treatment was commenced February 25, 1904, a high tube being employed, three inches from the tissues, treatment lasting ten minutes, given in a recumbent position, three times a week. During the middle of March radio-dermatitis of a mild degree occurred and patient was given a vacation of two weeks. When she returned she notified us that her monthly period had been less profuse than usual and expressed her determination to continue treatment in spite of the fact that digital examinations showed no change in the size of the uterine fibroids. We again urged operative measures, but met with refusal. Treatment was resumed during April and May. In June radio-dermatitis again supervened and a vacation of three weeks was given until all active hyperemia had ceased. During July and August the uterine hemorrhages entirely ceased and an examination of the uterus showed entire disappearance of

the large fibroid on the right side and evident clearing up of the nodules near the cervix, the uterus itself being seemingly smaller. A second examination instituted about September first corroborated the previous examination. Patient at present writing is under surveillance and will come in monthly for examination, her general health being excellent in every respect. The last monthly period lasted three days with very moderate uterine discharge.

"We trust that readers who use radio-therapy will, in suitable cases, test the effect of this new agent in fibroids and report their cases. The limitations of this wonderful power can only be gauged by its failures, and we need corroborative evidence of its value in fibroids before recommending it without qualification in their treatment."

This patient is well today and this article is cited to establish priority for American physicians, for Professor Albers-Schoenberg of Hamburg claims that he was the first to advocate radiation for myomata in the year 1905—fully one year subsequent to the cases just cited.

The judgment expressed in 1904 and here recorded that the treatment of choice for fibroids should be surgical has not been altered during the past ten years, although a number of patients have since been treated by means of Roentgen rays for this condition.

Indications for the use of the Roentgen ray in uterine fibroids are as follows:

- I. Advanced tuberculosis pulmonalis.
- II. Diabetes.
- III. Chronic nephritis.
- IV. Marked cardiac lesions.
- V. Arterio-sclerosis and old age.
- VI. Hemophilia.
- VII. After 35th to 40th year, especially if surgical phobia exists.
- VIII. Any other severe complication making operation hazardous or dangerous to the patient.
- IX. Where operation is refused.

Indications for preferring and urging Surgery.

- I. All women having fibroids before the 35th year, as sterility and premature climaxis are caused by Roentgen-ray treatment.
- II. Where diagnosis is doubtful; the exploratory incision clears up many doubtful lesions with complicating ovarian cysts or dermoid cysts.
- III. Where malignancy is suspected—danger of delay where sarcomatous or carcinomatous degeneration exists.
- IV. All cases of gangrenous myomata.

- V. Submucous and pedunculated fibroids especially involving the cervical region.
- VI. Injury to the bladder with adhesions may be caused, and injury to the intestines with chronic diarrhoea has been reported in isolated cases after Roentgen ray treatments.
- VII. The remaining atrophic mass after Roentgenization may, in some cases, degenerate and thus be a source of danger to the patient.

Regarding the relative expense, the cost of operation plus hospital fees will no doubt be somewhat higher than a number of serial treatments with Roentgen rays, but in surgical cases (uncomplicated) results are achieved within three weeks, while Roentgen ray treatments must be given for from three to nine months.

The latter treatments, however, do not cause any detention from usual occupations, require no hospital life and have this feature in their favor. As regards mortality, while surgery has an average mortality of about three per cent, Roentgen ray treatments have no mortality at all. In the latter, however, subsequent degenerative changes may, in after years, cause complications materially affecting the life of the patient.

#### *Technic:*

The technic of the Roentgen-ray treatments has for its object the production of atrophic changes in the uterus and ovaries. This is accomplished by means of massive radiation and can now be safely applied since the general adoption of filters.

Aluminum filters of 1-2 m. m. in thickness are preferred and Tint B. Sabouraud disks is the dosage applied at one sitting. This dosage is secured in various periods of time depending upon the source of current utilized to energize the tube.

If coils are used water-cooled tubes are necessary or the usual tube must be replaced during the treatment. With the Coolidge tube but a short exposure of one to three minutes is required to produce this tint.

My own technic consists in the use of a twelve-plate static machine, a six-inch tube, 6-8 Benoist penetration and an exposure of one to one and a quarter hours. This radiation is filtered through 1 m. m. aluminum and the tube is placed twelve inches distant from the parts treated, in a heavy lead glass tube holder.

The parts of the patient not treated are covered with heavy lead sheets, and in addition the eyes and head of the patient are protected by lead coverings. The parts to be treated are divided into three sections: right ovarian, left ovarian, and uterine. These are treated, one section daily, the part not treated being covered with heavy lead sheets and the exposure of the treated section is

given through the filter. After the three sections have been treated, a rest is given of from fourteen to eighteen days to await reaction.

It is customary to start treatment one week after cessation of menstruation, but the period soon becomes irregular and after the third series usually ceases. The period of rest between treatments of fourteen to eighteen days is, however, retained until atrophy has been secured. It is a well established fact that Roentgen rays have a selective action upon glandular tissue and the ovaries shrink and atrophy quickly under their influence. Obliterating endarteritis of the smaller blood vessels is also produced if marked reaction is induced in the tissues and atrophy of fibroids can be noted after three to four months.

It is well to cease treatment if this object has been secured, and monthly examinations can be made to note final results. If necessary, subsequent series of treatments can be applied if the result has been only partially accomplished.

In my practice it is customary for the patient to come in for a period of nine to twelve months before receiving the final dismissal.

It is well to warn the patient of the artificial menopause which this treatment will produce, and it is also prudent to have an understanding as to possible effects upon the bladder and intestines. These latter effects have, however, not been noted frequently.

The cumulative effects of Roentgenization often produce what the Germans have called "Roentgen-Kater," which can be roughly translated as an "*X-ray jag or fag*," during which the patient is depressed and irritable. This nervous manifestation usually responds to ordinary remedies and in a few days passes away.

In October, 1914, "Surgery, Gynecology and Obstetrics," Doctor John A. McGlinn has an interesting contribution entitled: "Can Surgery be eliminated in the Treatment of fibroid tumors of the uterus?" His conclusions are as follows:

"I. Surgery is the best treatment in fibroid tumors of the uterus and cannot be supplanted by any known form of treatment.

"II. Roentgenotherapy has an important place in the treatment of these tumors.

"III. Surgeons and Roentgenologists should not enter into competition with each other but should work hand in hand for the relief of womankind."

While agreeing with the last two statements, the first postulate is contradictory of the second and too dogmatic to be acceptable.

As has been demonstrated, surgery can often be supplanted by Roentgenotherapy, although it is, in the judgment of the writer, always the method of choice, other factors being equal.

The Roentgen ray can be utilized for palliation when surgery is powerless, as in severe cases of metrorrhagia and can, in some instances, produce changes so that surgery can be utilized later on.

While the Freiburg and Hamburg disciples at present prefer Roentgenotherapy for the treatment of fibroids to surgery, judgment on this subject must perforce still await the verdict of time.

Good judgment and a view of the whole field must be invoked for the benefit of each individual patient and the best method selected from the data obtained after a careful examination and history.

A review of the indications and contra indications attempted in this paper may aid in the proper conception of the duties of the physician and surgeon to his patient in the treatment of this lesion.

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### A PLEA FOR THE PROSTATE. \*

By N. R. PERKINS, M.D., Boston, Mass.

My plea is not entered here because the prostate is on trial; not even has there been made a complaint of any wrong-doing. Nevertheless, like some other unpleasant things, it is always with us.

Without entering into the histologic or pathologic condition, we all know that nearly every man over fifty years of age has an enlarged prostate. Some cause but little discomfort; some, particularly if the middle lobe is involved, may cause severe urinary symptoms. One writer has aptly said, "the normal prostate is a sexual organ, while the diseased is a urinary one."

This condition must either be endured, cured or removed. Physicians of all schools agree that drugs have but little or no effect on the hypertrophied prostate. It may be removed by surgical means, and many times with the most pleasing results; but, too, there is quite a percentage of mortality. The old are not the best subjects for surgery. The shock of the anæsthetic and the operation is no pigmy affair. The condition may be endured, but we are all familiar with the sad picture of the old man with the catheter habit, with its accompanying bladder infection, urine laden with pus and bacteria; or if not a catheter habitué he has to keep in close touch with some convenient place where he may relieve his bladder. It may be the toilet at one time, a cup at another, left at some point within easy reach; and in addition there is the necessity of arising several times at night.

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\* Read before the National Society of Physical Therapeutics of the American Institute of Homœopathy, June, 1914.

Now, as to the third proposition—cure—here, electricity, I believe, comes nearer to being the ideal than any other agent. It may not reduce the size of the gland; it may not restore it as a sexual organ; but it will relieve it from being a urinary one, and this is the result to be desired. It will relieve the symptoms of a hypertrophied prostate, except those that have become malignant, and if malignant neighboring structures have become involved to such an extent that surgery is only palliative I honestly believe that electricity is as much of a palliative in these cases as is surgery.

Dr. Dieffenbach several years ago gave me a pointer in regard to the use of the high frequency current in these cases, but as I could only procure glass vacuum electrodes, and being afraid of breakage, I made little use of them as they did not appeal to me as being safe; so I tried my skill at making one of aluminium. It suited me so well that I induced a brass founder to make me some from my own designs. These aluminium electrodes have the advantages of being light in weight, easily sterilized, good conductors, and there is no danger of breakage.

The electrode is introduced into the rectum, the curved portion fitting around the prostate, and the sphincter, resting in the constricted portion, holds it well in place. I use a static machine with a step-up transformer. The electrode is attached to one pole of the machine, the other pole to any portion of the body. Treatments of ten or twenty minutes are given every second day for two weeks; after that the intervals are gradually increased. The electricity seems to act as a germicide, the urine clears up, frequency of urinations giving way to longer intervals; night urinations in many instances entirely cease; the patient is enabled to empty the bladder freely, leaving no residual urine. What more can be asked for? The patient still has an enlarged prostate, but is symptomatically cured. The treatment has proved highly satisfactory to me. My patients have not been subjected to a serious surgical operation, and those not benefited have been left in as good condition as before treatment. Give the old man a show.

May I illustrate by citing two cases:

No. 1. Mr. K.; age 52; weight 240 pounds; by occupation a manufacturer; early life spent on farm; only illness he ever had was typhoid fever twenty years ago; has hemorrhoids which prolapse with every stool and are easily replaced. Consulted me October 1, 1911. A few days previously he had consulted a physician for pain and soreness in the rectum, pain and difficulty in urinating. He advised him to see a surgeon, and one of the best surgeons in Boston advised an operation. Then he came to me, and on examination I found an acute inflammation of the prostate, the gland hard, swollen to the size of an orange, extremely sensitive. I ad-

vised him to try electricity, which advice he eagerly accepted. He was given high frequency electricity with the aluminium electrode; sittings were from twenty to thirty minutes night and morning. Within two weeks he was enabled to resume his duties as president and manager of a large manufacturing firm, and he has not suffered from any urinary or rectal trouble since. I simply report this case to illustrate what electricity will do in an acute case.

No. 2. Mr. F.; age 60; retired; formerly in active business; well nourished man; no history of venereal or any other disease; fifteen years ago had hemorrhoids removed; for the past five years has had to urinate several times during the night, with frequent urinations during the day; is able to empty the bladder quite well, with only a small amount of residual urine. January 2, 1913, began treatments with high frequency electricity, aluminium electrodes, fifteen minutes every second day for two weeks, then every third day for one week. After the first week the night urinations decreased and at the end of the second week had ceased. The frequency of the day urinations materially lessened, and at the end of the third week he called himself well, and discontinued treatment. Six months later I learned that there was no return of the trouble.

#### Conclusions:

The normal prostate is a sexual organ. The diseased, is a urinary one. The diseased one may be endured; can be cured; can be removed. High frequency electricity, with aluminium electrode applied to the prostate by way of the rectum, is the treatment par excellence.

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### THE ABDERHALDEN TEST FOR PREGNANCY AND ALLIED CONDITIONS.\*

By W. H. WATERS, M.D., Boston, Mass.

As a result of the multitudinous studies along the lines of research the world over there appears every few years some one discovery or group of discoveries that rise above the mediocre and serve as landmarks outlining the course of the work. Such was the work of Harvey, of Jenner, of Hahnemann, of Lister, of Pasteur and of Koch. Such was the introduction of antitoxin by von Behring, the study of vaccines and immunization by Wright, the discovery of the treponema pallidum by Schaudinn, the elaboration of the complement fixation tests by Wassermann and the introduction of salvarsan by Ehrlich.

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\* Read before the American Institute of Homœopathy, July, 1914.

Following this series comes still another and possibly even more important discovery, one dealing with diagnosis and at first applied to but a single condition, it has more recently been demonstrated to be applicable to many others, even possibly opening up an entirely new field of research.

Reference is made to the discovery and demonstration of "protective ferments" in certain human sera by Emil Abderhalden and to its practical application. It is for the purpose of briefly considering such that this paper has been prepared.

Abderhalden, physiologist, had already demonstrated that when various substances, mostly proteids, were introduced into the body parenterally, *i. e.*, by subcutaneous, intramuscular or intravenous routes, the body possessed the power to defend itself against them. He further showed that this protective ability was due to the formation of a ferment capable of breaking down the invading or foreign material into more simple forms.

About this time Veit demonstrated the presence of syncytial cells in various parts of the body during pregnancy. These being essentially foreign substances, Abderhalden set to work to discover whether or not nature produced any defensive substances against such. In 1912 he published the result of his work, the conclusions of which were that there occurred in the blood of the pregnant woman a substance that showed a distinct proteolytic action on placental albumin. He further was able to demonstrate the absence of such in non-pregnant women and in males. Accordingly it seemed possible to apply the test in a practical manner as a diagnostic feature of pregnancy. His original methods were by polarization (now discarded) and by dialyzation. The technic that the writer has used and which is the one now most generally employed is as follows:

A fresh normal placenta is taken and thoroughly washed in running water to free it of the maximum amount of blood. It is freed from as much membrane as possible and cut into small fragments of about 1 cm. diameter and again washed. The fragments are now placed into a beaker of distilled water to which a few drops of glacial acetic acid have been added and boiled for thirty minutes. The water is then decanted and fresh water poured in and boiled for five minutes. This water after cooling is then tested with the ninhydrin solution and if any reaction is obtained the fragments are again washed with fresh water and boiled. The process is repeated until an absolutely negative ninhydrin reaction is obtained. The tissue is then placed in a sterile flask of water under sterile conditions, the surface of the liquid being covered by a layer of toluol and placed in a refrigerator for preservation.

A 1 per cent solution of ninhydrin is then prepared. (Nin-

hydrin or triketohydrinden when heated in solution containing traces of albumin, peptons, amino-acids and polypeptids shows a violet color.)

Schleicher and Schull dialyzers No. 579 or 579A previously tested for permeability and sterility are kept in sterile water under toluol. When a test is to be made 8-10 c.c. of blood are removed from the patient, usually from the median cephalic or basilic vein, as in the preparation of salvarsanized serum. It is incubated for fifteen minutes and placed in the refrigerator over night. The following morning the clear serum is removed. If there is any blood present the fluid must be placed in the centrifuge to remove it. The presence of free hæmoglobin vitiates the test.

Into one of the dialyzing tubes are now placed 2 c.c. of the patient's serum together with about 1 gram of the above described placental tissue recently tested to ninhydrin. This tube is then placed in a somewhat larger test tube containing 20 c.c. of sterile distilled water. The fluids both within and without the dialyzer are covered with a layer of toluol. The entire apparatus is now placed in the incubator at a temperature of 37° C. for a period of 12-36 hours. A control test is made by the use within the dialyzer of patient's blood serum only and a second control consisting of placental tissue and distilled water instead of serum.

At the end of the incubation period 10 c.c. of the diffusate are placed in a test tube with 2 c.c. ninhydrin solution and boiled for five minutes. At the end of this time the solution from the tube containing placenta and distilled water should be entirely colorless while that from the one with patient's serum and placenta, if positive, will be of a deep violet color. The third tube, the one containing patient's blood only, will be either entirely colorless or may show a slight violet color, always less than that of the original test.

The reasons for these results are as follows.—In the blood of the pregnant woman there is formed in response to continual introduction of chorionic cells as above noted, a specific ferment that possesses the power of splitting the more complex foreign proteids into more simple ones. This power is exerted both in vivo and vitro.

Outside the body the more complex proteids are not diffusible with the special shells employed, while the more simple ones readily pass through them. In the tests above outlined, if some of this specific ferment is present in the serum of the patient, it will when brought into contact with the prepared placenta break up the placental protein into more simple diffusible forms. Then during incubation these less complex forms pass through the dialyzer and are recognized by the ninhydrin test. On the contrary nothing is present in the distilled water so to act upon the

placenta preparation, no diffusion occurs and the ninhydrin test is negative. In the second control, patient's serum only, we sometimes find that the specific ferment has destroyed the chorionic cells already present in the patient's blood and that accordingly the serum may contain some of the broken down proteids even before it is removed from the individual. Hence, some diffusion may occur and a mildly positive ninhydrin test ensue.

Practical applications. In pregnancy from the time that the syncytial cells are well developed and liable to be absorbed till a short time after delivery the presence of the specific ferment can in the great majority of cases be demonstrated. Under conditions of sterility and when accurately performed the test should take its place as an important aid to diagnosis. It should be applied therefore with advantage in many cases where the question of pregnancy is the acute one.

The greatest possibility, however, is not in the physiological condition of pregnancy itself, a condition usually readily recognized, but in the enormous field of allied study that it opens up. If the organism reacts to placental proteids why does it not similarly react to other types, such as those of carcinoma, sarcoma, etc.? As a matter of fact it does, and at present there is a very hopeful prospect that in the near future our armamentarium of diagnosis in these diseases will be materially augmented. Published results already tend to show that not only may cancer be thus recognized but that the reaction is so specific that sarcoma serum will react only to sarcoma tissue and not to carcinoma tissue and that the same holds true in regard to serum from carcinomatous patients.

And by further investigations recently reported it appears that not only will foreign proteids set up this reaction but that a similar reaction occurs if cells of the individual's own body find their way into the circulation. Accordingly the reaction has followed the use of liver tissue in hepatic disease, of kidney tissue in nephritis and of the sex glands in various abnormalities associated therewith.

Recently Fauser has applied the test to various forms of mental disease. He has found that in dementia præcox the blood serum of male patients react with testicle antigen and that of female patients with ovary antigen and not vice versa but that both may react with brain cortex antigen.

At the present time one can apparently say that the Abderhalden test is almost certain to prove to be most valuable in giving further insight into the phenomena of disease and its diagnosis. Its exact status and limitations cannot yet be even surmised although of that status there can be no doubt.

## THE RESPONSIBILITY OF THE GENERAL PRACTITIONER TO THE QUESTION OF MENTAL DEFICIENCY.\*

By MARIA M. DEAN, M.D., Helena, Montana.

I am asking you as members of a professional body to consider your responsibilities towards the problems incident to one of the anomalies not infrequently encountered in members of the human family. The fact that I am placing emphasis upon the moral aspect of this problem, that is, the consideration of your responsibilities, requires no apology.

The medical profession has always been chary of its relations toward ethical questions and exacting in the observances of such conditions. Witness the tradition of the Hippocratic oath. Today, however, that phase of our consciousness which functionates in determining with fine precision the justness of a line of conduct and also incites to corresponding action (our consciences) presides over the relationship of beings whose lives are most intricately interwoven. That is, we possess today what is termed a socialized conscience. As a profession, as a craft, our obligations toward humanity have an increasingly wider social bearing.

The medical profession represents the most immediate and potent agency in securing, maintaining, conserving physical human welfare.

The study of physical human well-being requires that its student make an intensive study of the individual, and also requires that he estimate the potential possibilities of the individual, as a social being. The question of mental competence is one, I am inclined to say *the* one, most vitally pertinent to human welfare. For this reason, I believe the medical profession and individual practitioners cannot afford to be indifferent to or uninformed upon so basic a point of departure, so essential a point of reckoning as is mental competence, in calculating and directing human welfare. Without doubt, this same question is one of prime consideration for the sociologist, but because of the relation between physician and patient, which is a history of intimate chronologic dependencies from infancy to maturity, the burden of the question of mental deficiency challenges the consideration of the physician logically and with special force.

The understanding of the nature of mental deficiency has emerged during the past decade, from a cloud of vague misconception into very clear light. Its outlines are quite well defined. Today, thoroughly scientific observation, study and research are

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\* Read before the Montana Medical State Association, July 8, 1914.

centred upon this question in our own and foreign countries. It is decidedly alive and a very practical issue.

The most evident and profound types of the mentally defective have been recognized for generations and accepted as wards for private or state care. Relatively they constitute the least important phase of mental deficiency.

The earliest significant study of the mentally deficient began with individual work. One of the earliest impulses leading to the considerate observance of the mentally deficient arose out of the long and patient study which was made by Itard of France. His study of the wild boy of Aveyron was a classic. A little later Seguin, a French physician and a pupil of Itard's, continuing work along the same line that his master had taken up, came to this country. Seguin was an advocate of what he termed the psychologic treatment of the mentally deficient. He went about as a demonstrator of his treatment. Especial interest was aroused in the East, particularly in New York State and Massachusetts. New York subsidized this movement, but later the plan lapsed. In Massachusetts the work kept on. Later many private schools were established and afterwards became State Schools. Itard and Seguin are accorded credit for awakening interest, instituting training, and out of their intensive and painstaking observance and patient work with defectives many valuable and suggestive facts have been gleaned, but they held the theory that the mentally defective may evolve, by education, out of his state of deficiency into a condition of normal mental competence. Today this theory is recognized as a fallacy.

The essential fact of mental deficiency is this: deficiency is never changed into normal competence. Once a defective, always a defective is the accepted view.

The next service rendered the subject of mental deficiency came as the result of the work of the Royal Commission, appointed by the English Government in 1904, to consider the existing needs of dealing with the mentally defective. This entailed wide investigation and the securing of much valued information. In short, the work of the Royal Commission gave a perspective to the subject of the mentally deficient, and served as a stimulus to individual investigation and research along the same lines.

In England, A. F. Tredgold, L.R.C.P., London, and M.R.C.S., England, has done notable work, especially in sifting the facts and arranging them from a medical point of view with reference to their clinical aspects. A new and enlarged edition of his work on mental deficiency, or Amentia, has just followed his original work which was published in 1905.

Very closely following the work of the Royal Commission,

Binet and Simon, two French scientists, published a scale of tests for determining the mentality of children between the ages of three and twelve. A revision of this scale was made in 1908 and in 1911. Binet's death at this time was a great loss to his associates in this line of scientific work, though it resulted no doubt in greater independent corroborative investigation. Binet began his work in 1880, along lines of comparative psychology. His scale for measuring the degree of intelligence was the result of deductions made from scientific study and observation extending over a long period of time. His scale, which is arranged in a series of tests under each year from the ages of three to twelve, inclusive, serves as a test of mental capacity. It does not measure technical training nor acquired knowledge.

With the publication of the Binet scale, the study of mental deficiency took an immense jump. It resulted in this view, that the feeble-minded individual is forever a child. He never develops mentally into maturity. Binet's measuring scale for intelligence has been standardized by psychologists in this country and abroad. H. H. Goddard, Ph.D., of Vineland, New Jersey, has corroborated the work of Binet by laboratory and experimental work and applied the test to over two thousand normal children and some five hundred defective children. This work by Goddard has been accepted as standardizing this measuring scale for intelligence.

The first department of research for this line of work in this country was established in Vineland in 1906-7. H. H. Goddard, Earl Barnes and E. R. Johnstone, are the men who are responsible for instituting the department.

In the United States there is an array of scientific workers who are now devoting their attention to the various phases of this subject. Dr. Barr of Elwin Training School, Pa., was one of the earliest writers in this country on the mental defective. At Cornell, Guy Montrose Whipple is at work on standardizing tests. Lightner Witmer of the University of Pennsylvania, Wallace Wallin of Pittsburgh, the late Dr. Huey of Johns Hopkins, who did some notable work at Lincoln, Ill., Drs. Rogers and Kuhlman of Minnesota, are among the zealous workers. Belgium, Germany, France and Italy are also making notable contributions to the work.

This is but a very fragmentary survey of the course which the study of mental deficiency has taken. The work is still progressing. There are a few facts, however, which seem well-established and which serve as points of reckoning in the handling of this most important subject.

I wish to call attention first to the accepted classification and

nomenclature. In England, Tredgold has used the term "amentia" to designate the entire class of mental defectives, and he recognizes three grades, the idiot, the imbecile, and the feeble-minded. In America the nomenclature is slightly different. Feeble-minded is the generic term, and includes three distinct grades,—the idiot, the lowest type; the imbecile, the middle grade; and moron, the high grade feeble-minded.

Each of these three grades is divided into a high, low and middle grade. The term "moron" is derived from the Greek word meaning fool. The root of the same word is found in the word "sophomore."

Now, as to definition. Tredgold defines amentia, or according to our terminology, feeble-mindedness, as a state of mental defect from birth, or from early age, due to incomplete cerebral development, in consequence of which the person affected is unable to perform his duties as a member of society in the position of life to which he is born. His definition for the lowest type of feeble-minded, or the idiot, is "a person so deeply deficient in mind from birth or from an early age, that he is unable to guard himself against common physical dangers"; the imbeciles: "those persons who, by reason of mental defect existing from birth or from an early age, are incapable of earning their own living, but are capable of guarding themselves against common physical dangers"; the moron or high grade feeble-minded person is "one who is capable of earning a living under favorable circumstances, but is incapable from mental defect existing from birth or from an early age (a) of competing on equal terms with his normal fellows, or (b) of managing himself and his affairs with ordinary prudence."

Using the Binet scale of intelligence, Dr. Goddard makes the following classification: The idiot never develops beyond the mental age of two years; the imbecile between the mental ages of three and seven, never developing beyond the mental age of seven; the moron between the mental ages of eight and twelve.

Now, as to causation: 65 per cent. of all cases of feeble-mindedness are due to heredity; 35 per cent. to other causes. These are the figures given by Dr. Goddard of Vineland.

Tredgold quotes statistics from Germany, Switzerland, and Norway, varying from 50 per cent. to 60 per cent., as due to heredity. In regard to heredity he says: "The result of my inquiries has been to convince me of the immense importance of morbid heredity in the production of amentia. . . . The number of cases of pronounced mental defect, in which a tolerably complete family history is forthcoming, that can be solely attributed to extrinsic or environmental causes are probably not more than 20 per cent. at the very outside, this leaves 80 per cent. to heredity." Under the

35 per cent. not due to heredity, spinal meningitis, birth accidents, alcoholism, syphilis and other acute infections and intoxications are mentioned as causes.

The histology of amentia is quoted by Tredgold as follows: "As compared with the nerve cells of the healthy brain those of the ament are characterized by the following conditions: (1) Numerical deficiency; (2) Irregular arrangement; (3) Imperfect development of individual cells, and on the whole, it may be stated that the amount of change discoverable by the microscope is directly proportionate to the degree of mental deficiency present during life."

As to incidence, Tredgold says that 37/10 of every one thousand inhabitants are aments. Dr. Goddard says that 2 per cent. of all public school children are feeble-minded. Dr. Wallin does not agree to the 2 per cent. classification, but claims that 10 per cent. of all public school children are backward. Dr. Goddard's figures are as follows: 8 per cent. retarded and 2 per cent. distinctly feeble-minded; so that the figures very nearly coincide.

These facts are of scientific interest and are the object of zealous research work which is being prosecuted in various laboratories and institutions throughout the country, but the practical bearing of the entire subject of mental deficiency is enormously interesting, not only to the sociologist and the educator, but appeals with especial force to the practitioner of medicine.

The aspects of the case which concern us as medical practitioners most forcibly are, first: the nature of feeble-mindedness, that is, from birth the individual is feeble-minded and will remain so as long as he lives; second, the large percentage due to heredity; and third, the relatively appalling number. The lowest type, the drivelling idiot, is not a matter of such vital concern. There is no question as to their mentality; they do not procreate; they are not very long lived. The question of their care is comparatively simple. It is the higher grade imbecile and the moron who offer so serious a menace to social welfare. It is their recognition and treatment that concern us especially. It is true that there is a very large percentage of them that go unrecognized as belonging to the class of feeble-minded. Because they are unrecognized, they are free and unrestrained, living under the same social environment that surrounds the normal individual. They assume the burdens of normal individuals and of them are exacted the responsibilities of the normal. These individuals share in the function of reproduction, with the result that in comparison with the normal, they procreate in the ratio of two to one. They

constitute the picture of an individual, whose age advances chronologically, but whose mentality is arrested at the age of five, six, seven, eight or at any point between that and twelve. What possible result can follow, does follow? What would be the result if a five year old child were put in charge of an automobile? These children, for such they are to the end of time, are adult in body and years, with a mental capacity anywhere between three and twelve years of age. Lacking in judgment, continuity of purpose, strength of will, they are the victims of their own impulses and the dupes of designing individuals. The social history of the feeble-minded, if I may apply that term to a group of wholly un-social beings, is conditioned by their environment and temperament. But whatever the temperamental type, there is but one outcome, that is, social wreckage, failure and disaster. The feeble-minded constitute a large percentage of the habitual paupers and an appreciable percentage of alcoholics, drug addicts, and syphilitics. While both syphilis and alcohol are recognized as causative factors, they are surely sequences of feeble-mindedness. The uncontrolled impulses and weak wills of the feeble-minded have a tendency to precipitate them into the lower social strata where such conditions exist. Delinquents, the derelict, the incorrigible are largely recruited from the ranks of the feeble-minded. It is estimated that 25 per cent. of the prostitute class are feeble-minded. The unmarried mothers largely belong to this class. From the derelict to the murderer, assassin and dynamiter we find the feeble-minded constitute the bulk of social wreckage. As has been said, to gather in the adult feeble-minded is to throw out a great drag-net and deplete all the various forms of social pestilence. Further details of this sort are unnecessary. The fact is this: a multiform, self-perpetuating, ever-spreading disease confronts us. What is our responsibility in the matter? Science in the hands of the medical practitioner has exterminated many a foe of the acutely devastating type. The life of the scientist is a toll that has many a time been ungrudgingly given on behalf of human welfare, but here is a foe more insidious, less patent, but very real and attacking and handicapping the very life of the race. Because the symptoms are not grossly, discreetly physical, because the disease manifests itself in violence to social integrity, constitute no reason why the burden of diagnosis and treatment should be shifted to the psychologist and sociologist. The medical profession must stand breast high to the demands which must be made in behalf of a sound social structure.

The method of treatment may be summed up in one word, prevention. To accomplish this, diagnosis must be made at the earliest possible moment and appropriate treatment instituted.

The Binet tests with other corroborative tests offer one of the most accurate and satisfactory means for determining the mentality of a child. The application of the test must be early in the life of the child and universal of application to accomplish any extended good. What better opportunity could be asked than our present public school system with its compulsory attendance? I believe that every public school system should be required to institute as a part of its educational plan the use of standardized tests for determining the mentality of each pupil. This plan should apply to private and parochial schools as well. It should apply to all institutions dealing with children in an educational capacity or institutions in which children are wards of private or state care. These tests can be efficiently carried out by a trained worker only. Once having made the diagnosis, the nature of the condition with which we are dealing dictates the treatment. The essential nature of feeble-mindedness is its unalterableness. It is impossible for a feeble-minded individual to become normal, and it is certain that such an individual will transmit to his offspring the feeble-minded taint. Bear in mind Tredgold's definition of the moron: "under appropriate conditions he can earn his own living but cannot compete with his normal fellows nor manage his own affairs with prudence." This means practically one thing, an appropriate training,—I do not say education,—and segregation for life. That is a summary dismissal of a problem long in solution, intricate in its bearings, and requiring most just, most wise, most humane handling. It requires the combined efforts of psychologist, sociologist, and physician. The obligation of the medical profession is evident. I express it in this way: primarily to be cognizant of the existence of this pathologic condition so insidious, so pervasive, so devastating to human welfare and social well being. Next, to understand the nature of it, and not only to be informed as to the growing solution of the problem, but to co-operate actively with social agencies working toward that solution.

In addition I would like to make this practical suggestion: We are frequently called upon in our professional capacity by institutions dealing with children, to serve these children. In accepting the responsibility of such service I feel that we should demand that individuals or organizations who assume the burden of such institutions shall recognize that the problem of the feeble-minded must be reckoned with. They must accept that responsibility intelligently, and the medical profession must assist them in doing so.

Let me illustrate.—A young mother, whom we will call Mary Jane, came with her two months' old baby to me for advice. The mother and child were residents in a local charity institution.

The mother's history is as follows: twenty-one years of age; large and well developed, with a slight speech defect. She had never been ill except for an attack of bronchitis in early childhood. She had three sisters and six brothers. When Mary Jane was five years old her mother died; one sister had married previous to her mother's death, the two others within five years after the mother's death. So when Mary Jane was eleven years old she lived alone on the ranch with her father and brothers. She did the work about the house.

At the age of fifteen she stopped school at the seventh grade. At this time she married a man 29 years old. Three months after their marriage she gave birth to a child. At the end of one year she left her husband, giving as a reason, non-support, though later she said her husband's mother had induced him to leave her.

The history of Mary Jane's life after her eleventh year is such as is found among the lives of the mentally defective. She lived a life of intimate physical relationship with her brothers, who, even after their marriage, returned to their father's ranch to cohabit with their sister. The next incident in Mary Jane's life followed the arrival in the household of her father's brother, Uncle Wallie, who came from a distant state. In due time she gave birth to a child, whose father was her own uncle. It was in behalf of this child that she came to me.

The facts in this case are these: Mary Jane, feeble-minded, descended from unquestionably mentally defective ancestry. Her offspring were of the same strain, intensified through breeding. Both of her children, at the request of the institution that was housing them, came under the care of physicians; the younger one requiring mastoid operation and much subsequent care.

Case 2—

Bessy; aged eleven; sent by a charity organization, whose ward she was, for treatment. She was suffering from Raynaud's disease. She was very evidently feeble-minded, and she was subsequently examined by a competent psychologist, who rated her at the mental age of six. Bessy had been adopted by three different families, and after living with each one for longer or shorter period of time, had been returned to the institution having charge of her.

Inquiry showed that she had four brothers and sisters, two of them also feeble-minded. One of her sisters had borne a child by her own father. The incestuous father was sent to the penitentiary. The mother proved incapable of caring for her family and was relieved of them by a private charity. She moved to a distant part of the state and has again assumed the role of child bearing.

In this instance these feeble-minded children have back of

them a feeble-minded parentage. The four younger children and the infant which was born of the incestuous union, have been given out for adoption through state and private charity organizations.

As the result of my own limited experience, I could cite many more similar cases. I know that such cases come to the rest of you. This is the claim that I make: that as members of the medical profession, whose obligation is to secure and protect the physical and social well-being of our fellows, we are culpable and unworthy of our calling if we utterly disregard the question of the mental competence and the social potentiality of these children who are placed under our care. Our present need is a greater understanding of this subject. With increased understanding will come the courage and confidence that is required to deal with the situation.

Without pretending in the least to give a bibliography of the question of mental deficiency, I take the liberty of suggesting some authors whose works I have found helpful along this line. The study of heredity is very enlightening in the matter of mental deficiency. For this purpose H. E. Walter's work on Genetics, The Macmillan Co. publishers, and Punnett's Mendelism, offer very practical assistance. For specific reading on this subject, Tredgold, on Mental Deficiency, second edition, and H. H. Goddard's work, which is just leaving the press of Macmillan, are most comprehensive and authoritative. There are two monographs which are brief, enlightening, and contain a very good bibliography: one on Feeble-Minded Children by E. B. Huey, late of Johns Hopkins, published by Warwick & York, Baltimore, and the Kallikak Family, by H. H. Goddard of Vineland Training School. The research department of Vineland publishes a bulletin monthly for ten months during the year. There are other strictly technical scientific publications, but these that I have mentioned are within the time limit of the busy practitioner.

Since general enlightenment on the part of the laity is a very necessary step in instituting helpful progress in the matter, I believe that much could be accomplished through the presentation of the subject in public lectures, providing it were wisely done. Such men as Alexander Johnson, who is the field worker at the Vineland Training School, or Dr. Rogers of Faribault, Minn., are doing excellent service in spreading the propaganda of the rational care of the feeble-minded.

The members of the Montana State Medical Association could render society an invaluable service through their support of a plan to secure the services of some such representative to lecture in three or four of the larger towns throughout the State.

I realize the foregoing review of the subject of mental deficiency is fragmentary. The reference to authoritative writing on the

subject is incomplete; but my experience has led me to the realization of the deep significance of the subject and an appreciation of the responsibility of the medical profession to the subject as a whole. Because of this, I ask your tolerant consideration, and thank you for your attention.

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### ANAL AND RECTAL GROWTHS OF BENIGN OR DOUBTFUL CHARACTER.

By DR. CHITTENDEN HILL, of Boston, Mass.

Hill states that in a series of 3,000 rectal cases previously reported there were 49 benign and 76 malignant growths of the rectum. The large majority of these tumors were characteristic, and the differential diagnosis was easily made. A few malignant growths seen in an early stage, and some unusual benign types associated with ulceration, were of such a nature that the exact diagnosis was not easily determined.

The writer emphasized the fact that the operative measures to be employed differ radically in each of these conditions. An excision of the rectum is necessary for the malignant cases, a simple local excision is all that is required for the benign growths, where an incision and drainage will suffice for the abscesses and fistulæ. Therefore, a doubtful case cannot be treated as a breast case in which a complete amputation for a benign growth may be justified. In the case of the rectum there is not alone mutilation but a high mortality and a serious impairment of function as well to be considered. Furthermore, the removal of a specimen of a suspected tumor is not now approved and this complicates the problem still more.

The histories of several cases which illustrate the doubtful nature of some border line conditions occasionally found in the rectum are cited. They tend to show that aside from benign growths, some of which have many of the characteristics of malignancy, there are certain abscesses which develop in the loose cellular tissue of the retro-rectal and pelvi-rectal spaces which are even more suspicious. These indurated, irregular swellings bulging into the rectal ampullæ at first resemble very closely the sensation imparted to the finger in malignancy. A little later they become soft and fluctuation is perceptible, when all doubt as to their nature is removed. The sinus from an old fistula occupying these same spaces is apt to be much more perplexing than an abscess. As the slow process goes on the rectal wall is crowded into the lumen of the bowel and assumes an irregular, indurated outline which is very suggestive of cancer. Other conditions of similar doubtful character such as gummatous growths and tuberculous ulceration are also discussed. [*Abstract of a paper presented at the sixteenth annual meeting of the American Proctologic Society.*]

## EDITORIAL.

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Books for review, exchanges and contributions—the latter to be contributed to the *GAZETTE* only and preferably to be typewritten—personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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### NO ESAUS IN THE OPERATING ROOM.

It would appear that the average intelligent legislator can make a fool of himself more easily by meddling with medical matters than by doing anything else. Here is a specimen of the latest form of asininity emanating from the legislative halls of Massachusetts. The following bill actually will come before the General Assembly of Massachusetts which has now convened for its 1915 session:

"Section 1. No surgeon, physician, dentist, nor other person, performing, directing or assisting at a surgical or dental operation upon a human, either on public or private property in this State, shall wear the hirsute appendages commonly known as moustache and beard.

"Section 2. The Boards of Registration in Medicine, and of Registration in Dentistry, acting jointly, shall have full authority to prosecute violations of this act.

"Section 3. Violations of this act shall be punished by a fine not exceeding \$50.

"Section 4. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

"Section 5. This act shall take effect upon its passage."

Why not introduce a bill prohibiting any surgeon from performing a surgical operation who is not totally and permanently bald, for if not bald he might be called upon to render surgical aid in an emergency, and failing to shave his head before starting out he would be ineligible. Of course the patient might die were the surgeon to delay the operation while he completed the tonsorial

requirement, but that would matter little so long as he complied with the law.

If this law goes into effect we are wondering if it would rule out the surgeon who has a hare(?) lip. If this bill should pass it might be wise for surgeons to get up a bill prohibiting any man being elected to the legislature who is not permanently and incurably tongue-tied.

### WHAT THE GAZETTE IS OFFERING FOR 1915.

This is a golden anniversary year, its fiftieth, for the *New England Medical Gazette*, and in celebration of this long term of life and activity we are offering for 1915 an unusually attractive list of contributors. Read the following list and you will agree with the editors that the *Gazette* is even more than ever worth while and worthy of enthusiastic support. If you have not yet sent in your 1915 subscription, we hope you will do so without delay.

Some of the writers and their topics:

- Dr. EDWARD B. HOOKER.....Old Problems and New Answers.  
Hartford, Conn.
- Dr. W. B. HINSDALE.....The Unappreciated Increment.  
Ann Arbor, Mich.
- Dr. DELMER L. DAVIS.....A Résumé of the Present Status of  
Omaha, Neb. the Cancer Question.
- Dr. T. D. BUCHANAN.....A Review of Obstetrical Anæsthesia.  
New York.
- Dr. RALPH BERNSTEIN.....Logical Dermatological Reasoning.  
Philadelphia, Pa.
- Dr. HORACE PACKARD.....Cumulative Evidence of a Correla-  
Boston, Mass. tion Between Diet and Cancer.
- Dr. REUEL A. BENSON.....Vomiting Baby.  
New York City.
- Dr. JAMES W. WARD.....Diverticulitis of the Colon.  
San Francisco, Cal.
- Dr. SCOTT PARSONS.....Technique in Cancer Surgery of the  
St. Louis, Mo. Breast.
- Dr. EDWARD HARPER.....Malaria and Its Treatment.  
New Orleans, La.
- Dr. H. W. NOWELL.....Cancer.  
Boston, Mass.
- Dr. RALPH R. MELLON.....The Increasing Pathological Role of  
Ann Arbor, Mich. the Streptococcus.
- Dr. ALEXANDER L. BLACKWOOD....Clinical Observations on Hypothy-  
Chicago, Ill. roidism.
- Dr. HOMER I. OSTROM.....Duodenal Ulcer: Its Surgical Treat-  
New York. ment.
- Dr. BURTON HASELTINE.....What All Physicians Should Know  
Chicago, Ill. About Tonsil Surgery.
- Dr. GEORGE F. LAIDLAW.....Truths and Fallacies in the Treat-  
New York. ment of Nephritis.
- Dr. HERBERT D. SCHENCK.....Treatment of Catarrhal Conditions  
Brooklyn, N.Y. of the Ear by Massage.

- Dr. EDWIN A. NEATBY.....Some of the Complications of Uterine Myomata.  
London, Eng.
- Dr. T. H. CARMICHAEL.....The Union of the Homœopathic and Eclectic Schools of Medicine.  
Germantown, Pa.
- Dr. J. H. CLARKE.....Drug Pictures.  
London, Eng.
- Dr. JOHN M. LEE.....Subject to be announced.  
Rochester, N.Y.
- Dr. WILLIAM H. DIEFFENBACH...Subject to be announced.  
New York.
- Dr. MAURICE C. ASHLEY.....Subject to be announced.  
Middletown, N.Y.
- Dr. L. T. ASHCRAFT.....Subject to be announced.  
Philadelphia, Pa.
- Dr. C. E. KAHLKE.....Subject to be announced.  
Chicago, Ill.
- Dr. BENJ. F. BAILEY.....Subject to be announced.  
Chicago, Ill.
- Dr. J. RICHEY HORNER.....Subject to be announced.  
Cleveland, Ohio.
- Dr. C. C. HOWARD.....Something on Criminology.  
New York City.
- Dr. A. H. GORDON.....Something on Asthma.  
Chicago, Ill.
- Dr. FLORENCE N. WARD.....Subject to be announced.  
San Francisco, Cal.

## MEDICAL JOURNAL REVIEWS.

### Homœopathic World, November, 1914.

1. *Homœopathy in Ophthalmic Practice*. Alexander, A. S.  
"A brief outline (20 pages) of the chief indications for the selections of the leading remedies used in the homœopathic treatment of diseases of the eye."

### December, 1914.

2. *Some Balkan War Experiences*. Pantcheva, E. R.
3. *Wounded Belgian Soldiers at the Southport Homœopathic Hospital*.  
Wheeler, F. J.
4. *Dr. Hayward—An Appreciation*. Proctor, P.
5. *Cases from Practice*. Stephenson, R. S.  
Two of melancholia and one of mental disease.

S. B. H.

### North American Journal of Homœopathy, November and December, 1914.

6. *The Injurious Possibilities of Pure Food*. Sutherland, J. P.
7. *Uterine Inertia*. Danforth, L. L.  
A consideration of the use of pituitrin.
8. *The American Twilight Sleep*. Allen, H. C.  
The author gives this term to the use of nitrous oxid and oxygen during labor. At the Cumberland St. Hospital in Brooklyn this method has been employed side by side with the scopolomin—narcophin method. The results are markedly in favor of the author's method. 65 to 85 per cent nitrous oxide and from 35 to 15 per cent oxygen are necessary to hold the patient in this analgesic stage. He has used it in conjunction with pituitrin with satisfactory results.
9. *"Painless Childbirth" or "Twilight Sleep."* McDuffie, M. W.  
A review of some of the literature with a description of the Freiburg technic.

10. *Glandular Tuberculosis*. Wallin, A. C.

A rather compact review of the pathology, etiological factors, medicinal and surgical treatment, together with quotations of numerous statistics on these various features. Proper references to this article would have made it a distinct contribution to medical literature rather than a jumble of periodic sentences not conducive to keeping up the reader's interest.

11. *Typical Cerebral Lesions*. Lloyd, R. I.12. *The Prevention of Tuberculosis in Early Life*. Green, C. R.13. *Cervical and Other Tears*. Jarrett, E.14. *Thlaspi Bursa Pastoris: Sabadilla*. Hale, H. W.

The author has had no good results from its use in epistaxis, menorrhagia, metrorrhagia, etc., in any potency. She has found the medicated pellets of the tincture,—one every hour,—of use in pulmonary tuberculosis with hæmorrhage. We consider that the author underestimates the value of rest prescribed in conjunction with the remedy. Sabadilla used successfully in hay fever.

15. *A Few of the Most Important Remedies for Difficult Dentition*. Lutze, F. H.16. *Constipation*. Sperling, F. J. E.

A somewhat mediæval treatment of the subject, with a consideration of many obsolete and unfounded notions both as regards the etiology of constipation and the use and action of various cathartics. The author should consult more recent literature on the subject before indulging in such humorous vagaries.

C. W.

**Journal of A. I. H. November, 1914.**17. *The Present Status of Radium in the Treatment of Cancer*. Dieffenbach, W. H.

"Whenever the lesion is not a superficial one and is approachable by the knife, have surgery invoked to remove as much of the diseased tissue as possible and follow at once with radium and X-rays in massive doses.

"When inoperable, these agents must be relied upon and often a case becomes changed so that operation can be advised and radiation again used to prevent metastasis and local recurrences.

"The use of radium and X-rays must, however, be given in sufficient and massive doses to secure inhibition and fibrosis, for mild and insufficient treatment is, in the writer's experience, merely conducive to early recurrence.

"It will be interesting to quote the conclusions of Dr. W. T. Lazarus Barlow (Archives of the Roentgen Ray, June, 1914) Director of the Cancer Research Laboratories, Middlesex Hospital:

"I see cancer as a protean manifestation of purposeless disorderly cell growth, brought into existence by long-continued action of cell-stimulant, and I see in radium and radiation an agency sufficient to produce cancer. But, just as in the case of diphtheria, the agent which produces the disease is also the agent whereby the specific cure for the disease is elaborated; so I am prepared to see cancer caused by radium and cancer cured by radium."

An instructive discussion follows this paper.

18. *The Mental Influence of Drugs*. Price, E. C.

The mental symptoms produced by various drugs are differentiable chiefly by the concomitant detailed effects upon the more material parts of the body. When there is indifference to surroundings, sepia is indicated by the concomitant involvement of the sexual sphere; hamamelis when the circulatory system is at fault with resulting hæmorrhage; helleborus when there is serious meningeal trouble, etc. Price discusses briefly a large number of drugs.

19. *Report of Twenty-Eight Cæsarian Sections without a Death*. Ward, F. N. Indications and technic are also discussed.20. *The present Status of Homœopathy*. Sawyer, C. E.

An extremely optimistic review of what homœopathy is supposed to have done and is supposed to be doing.

21. *Spondylotherapy—What It Is and What Is Claimed for It*. Dominick, G. C.

22. *Some practical Results of Spondylotherapy.* Smith, E. S.

The above two articles are brief and highly unsatisfactory discussions of "that method of treating disease which is concerned only with the excitation of the functional centres of the spinal cord by certain measures such as tapping, pressing, etc."

The methods for treating most widely diverse diseases are dismissed with a few words. The rationale of the method—either dilating or contracting organs—seems somewhat fanciful.

The reports of cases are but fragmentary: "as I lost track of the case, I cannot report the present condition of the patient;" "what part the spinal treatment had in the result I am unable to tell." "I cannot report a cure, as the patient discontinued the treatment."

23. *The Diagnostic and Prognostic Significance of Albuminuria.* Birdsall, G. C.

Nothing new is presented except that Birdsall employs two unusual tests for the qualitative detection of albumin which are said to be more delicate than the common Heller's nitric acid contact test. In the first test, 3 ccm. of a 20 per cent sulphosalicylic acid solution are placed in a test-tube and the urine flowed over its surface. A white ring at the point of contact indicates albumin. The second, Ulrich's test, consists in the boiling of 5 ccm. of a filtered, saturated solution of sodium chloride containing 2 per cent of glacial acetic acid; the urine is floated on the surface of the hot liquid. One advantage which these tests possess is that only one ring is formed at or near the plane of contact, whereas in the nitric acid test, pigments, etc., may obscure the acid albumin ring.

Birdsall, unfortunately, does not mention any quantitative comparisons between these two tests and the highly convenient and very sensitive heat and acetic acid test.

24. *Discussion of Dr. Krauss' Paper—"The Definition of Homœopathy."*25. *Discussion of Dr. Coleman's Paper—"Verifications."*

S. B. H.

## December, 1914.

26. *The Readings of the Sphygmomanometer from a Clinical Standpoint.* Rankin, E. G.

"The writer's conclusions in regard to blood pressure readings, gathered from personal experience, are:

"(1) To interpret the true significance of the readings of the sphygmomanometer, one must take into consideration the primary factors, viz., the heart, the kidneys, the urine,—the latter also apart from organic diseases of the kidneys,—for example, indicanuria;—the condition of the arterial wall, recalling that arteriosclerosis is often present in association with soft radials;—and the effects of neuroses. (2) That one reading is not conclusive; that wide variations are frequently observed in persons in apparent health, such cases being dependent upon neuroses and metabolism; that nephritis may be associated with a so-called normal pressure, and transitory high pressures may be observed in vigorous persons in apparent health. Vasomotor dilators should not be employed in such cases,—the treatment of which should be confined to correction of faulty metabolism and autointoxication, and in some instances amelioration of neurotic conditions. (3) High systolic pressures which are persistent, must be regarded as evidence of pathological change. Systolic pressures, persistently below 120 in persons in middle life, may generally likewise be so considered. (4) It is the opinion of the writer that many statements in regard to blood pressure are of a too positive nature, also that some are positively incorrect and misleading. Finally, notwithstanding a certain degree of apparent contradiction, the readings of the sphygmomanometer are a positive guide in diagnosis and treatment."

27. *Immunity and the Homœopathic Law.* Watters, W. H.

A consideration of the following features:—1. The single remedy. 2. The provings of drugs. 3. The size of the dose. 4. The frequency of the repeti-

tion of the dose. 4. The law of cure. The paper is followed by a lengthy discussion.

28. *The Relation of Drugs to Immunity*. Hooker, S. B.

See *Gazette*, 1914, xlix, 405.

29. *Some Interesting Cases of Rectal Cancer*. von Bonnewitz, O. R.

30. *Irregularities of the Pulse: Their Recognition, Significance and Treatment*. Wells, G. H.

An admirable paper. See our review; *Gazette*, 1914, xlix, 622.

C. W.

#### Clinique, November, 1914.

31. *The Science and Art of Prevention*. Runnels, O. S.

32. *The Use of Vaccines and Intravenous Treatment in Pulmonary Tuberculosis*. Tenney, A. C.

Tuberculin should not be used while vaccines against secondary infections are being employed, although, curiously enough, Tenney seems to think that the mixing of vaccines is commendable in cases of mixed infection.

He has found that "tonic" .15 gm. to .3 gm. doses of neosalvarsan are unquestionably useful when general vitality is decidedly below par; also that the intravenous use of antiseptic salicylates and phenols is immediately beneficial in desperate cases.

33. *The Homœopathic Treatment of Rheumatic Conditions*. Ripley, G. H.

A curious inconsistency is manifest in the retention of the diphthong in "gonorrhœa" and its omission in "homœopathy."

The frequent occurrence of such mis-spelt words as "salycilate," "epididymitis," "accute," "sanitarii" reflects no credit upon either author or proof reader.

34. *Practical Laboratory Methods*. Toren, J. A.

To this title should be added—in Relation to the Diagnosis and Prognosis of Tuberculosis.

Toren briefly discusses leukopænia, X-ray, guinea-pig inoculation, tuberculin and smear examination.

35. *A Radical Cure for Prolapsus Uteri*. Schneider, J. F.

36. *Brief Consideration of Anæsthesia in Labor with Special Reference to "Twilight Sleep"*. Fitz-Patrick, G.

S. B. H.

#### December, 1914.

37. *The Medical Treatment of Pyloric Stenosis*. Cobb, J. P.

38. *To What Extent and When Is a Laboratory Report to Be Trusted?* Wilson, W. H.

"A laboratory report has value simply commensurate with the known honesty and ability of the man who does the work.

"Clinical pathologists are made and not born. The value of their opinions depends wholly on how well they are made."

39. *Treatment of Locomotor Ataxia*. Wood, F. W.

40. *President's Address, Central Illinois Homœopathic Medical Association*. Adsit, J. S.

41. *Eupatorium Perfoliatum*. Blackwood, A. L.

S. B. H.

#### Medical Century, November, 1914.

42. *Eupatorium Perfoliatum*. Starcke, A. H.

43. *The Prognosis After the Remedy*. Dienst, G. E.

44. *The Sinusoidal Current*. Burrett, J. A.

45. *A Carbo Vegetabilis Patient and a Puzzling Diagnosis*. Tisdale, C. S.

46. *Important Remedies at the Menopause*. Steinrauf, W.

Mention, only, is given to several drugs.

47. *Adjuvental Therapeutics*. Netherton, G. F.

48. *The Reasonableness of Homœopathy.* Hudson, T. H.

Under this very misleading title Hudson briefly and vaguely outlines a suggestion for the dissemination of knowledge of homœopathy.

49. *Modern Medical Education.* Cobb, J. P.

## December, 1914.

50. *Malignant Tumors from the Surgeon's View-Point.* Fobes, J. H.

"First, the precancerous stage is the only stage in which we can absolutely promise an operative cure. Second, at any stage, carcinoma demands a thorough radical removal of the tumor, preceded by the removal of the lymphatic glands which drain the region, with the use of the cautery wherever possible instead of the knife."

51. *Ligation of the Middle Meningeal Artery in a Case of Apoplexy.* Nobles, N. T. B.52. *"Whatsoever a Man Soweth That Shall He Also Reap."* Whinna, E. G.  
A brief review of a few features of sanitary science. Whinna is "the son of a Methodist preacher."53. *Capsicum.* Hudson, T. H.  
A large part of the article is in verse.54. *Supplement to the Dictionary of Homœopathic Materia Medica—Aconitum Napellus.* Clarke, J. H.55. *The Care of the Breasts. [Mastitis and Its Prevention.]* Netherton, F. F.56. *Four and Fifty Years: A Retrospect.* Peck, G. B.  
A statistical study of the Class of 1864, Brown University.

S. B. H.

**Journal of Ophthalmology and Oto-Laryngology, October, 1914.**57. *The Cost of Blindness to the State.* Woodruff, T.

Much of the blindness of the world is due to causes that are easily preventable, and this can be done at a cost that is small compared with what is needed to educate and care for those who have been deprived of sight. Any individual who through some cause or other has his sight destroyed has his earning power absolutely taken from him. He must become dependent upon outside aid for his future maintenance, and the community loses an asset consequent upon his withdrawal from productive activity. If the blindness occurs in early childhood, the greater the cost to the State. The blind child must be educated in schools specially provided, special teachers are required, and the cost is proportionately higher than in schools where the seeing child receives instruction.

It costs the State of Illinois over three hundred dollars a year for the maintenance of each blind person under its care. That is, the State of Illinois pays out approximately \$100,000 a year for the education and maintenance of the blind under its immediate care.

The cost of maintenance, to the United States, of the dependent blind is about \$10,000 per capita, through life. It costs this country all of \$25,000,000 a year in taking care of the blind. Then there is the matter of unemployment and reduced earning capacity. The average wage of those of the blind men who are employed is \$7 a week; that of the woman, about \$3 a week. There is no definite data as to the number of blind employed.

Now, as to the cost of preventing unnecessary blindness; and a conservative estimate places the number of cases of preventable blindness at about 40 per cent of the total number. The cost to the community consists of cost of treatment at the onset of the disease; cost of educating the child; and cost of maintenance, and added to this is the loss occasioned by unemployment as well as reduced earning capacity of the one afflicted.

The cost of treatment is difficult to estimate, as can readily be seen, but this is the smallest item.

As to cost of prevention, let us take the most frequent and most potent

cause, as well as the most preventable and most unnecessary form of blindness,—*ophthalmia neonatorum*.

A one per cent solution of nitrate of silver instilled into the eye at birth is a sure preventive. Nitrate of silver is cheap; add it to the cost of containers and expense of distribution, and we can save babies' eyes at the rate of two for a cent. Compare this insignificant sum with the cost of blindness. It would cost twenty-five thousand dollars a year to save the eyesight of the two million babies born each year in this country, as against the twenty-five million dollars to educate and maintain those who have lost their eyesight through carelessness and neglect.

D. W. W.

### Medical Advance, November, 1914.

#### 58. *One Hundred Emergency Shots*. Hayes, R. E. S.

Under this "popular" title Hayes outlines the "prominent, uncommon and peculiar" symptoms of one hundred emergency cases and states the drug and potency used. The series of cases is used to illustrate that the employment of morphin is almost always unnecessary. Most of the "potencies" ranged between 1 m. and cm. Probably because they were so uniformly high, Hayes makes the following comment:

"Of course there was no causation between the potencies and the cures. This is merely a compilation from my records of faith cure, suggestion, coincidence and imagination.

"Anyhow, *the results are there*. . . . I know men who never carry or use a narcotic, and don't need to; they cure and palliate with potencies.

"What they can do anyone intelligent enough to be a physician can do or learn to do. But not with low potencies alone! There, again, is the fatal flaw—the blank streak in the medical consciousness. No! there can be no law perceived or used in the ethereal. Impossible!"

[Reviewer's note.] To masculinize a classical phrase: "Methinks the gentleman doth protest too much."

#### 59. *Clinical Cases*. Choudbury, A. W. K.

(1.) *Rhus tox.* in intermittent fever. (2.) *Lycopodium* in diarrhoea. (3.) Sulphur in eczema. All cases were "one-dose cures."

#### 60. *Christian Science and Homœopathy*. Woodbury, B. C.

Still continued.

S. B. H.

### Pacific Coast Journal of Homœopathy, November, 1914.

#### 61. *Homœopathy and the Present Crisis*. Bishop, F. D.

#### 62. *Compulsory Vaccination of School Children*. Hawkes, W. J.

Hawkes claims that vaccination is emphatically and unequivocally unsafe; that it is ineffectual; that there is a safe and better way (*variolinum* 30 or higher, by mouth) and that it is unlawful.

[Reviewer's note.] Of course Hawkes has been careful to select only the most unfavorable reports and statistics and gives them without comparisons. His attitude of mind is significant and typical: Adverse criticism as to his statements "*will have no inhibiting effect on my convictions or the positiveness of their expression*, for I seem to have been in the minority all my life on important questions other than the one under discussion, so I may say I am used to it." [Reviewer's italics.]

Hawkes writes like a high potentist.

#### 63. *A Case*. Simpson, J. H.

A mass of rags, sticks, pins, straw and hair forming a complete cast of the stomach. Surgical removal, and recovery.

#### 64. *Cystitis in Women*. Atwood, H. A.

#### 65. *A Case of Purpura Hemorrhagica Neonatorum*. Shepherd, H. L.

#### 66. *A Proving of Rhamnus Californicus*. Rice, P.

S. B. H.

## Hahnemannian Monthly, November, 1914.

67. *The Mental Influence of Drugs*. Price, E. C. Published in Jour. A. I. H., November, 1914, p. 491.
68. *Clinical Suggestions Concerning Puerperal Septic States*. James, J. E., Jr.
69. *Recognition and Treatment of Fracture of the Femoral Neck*. Hammond, W. N.
70. *Basal Fractures Involving the Inner Ear. Report of a Case*. Mackenzie, G. W.

Mackenzie gives an admirably detailed report of one case and a discussion of the condition.

71. *Muscular Asthenopia*. Hillegas, W. M.
72. *Acute Inflammations of the Middle Ear*. Bierman, H.
73. *Defining Accurately—One Essential Step in Authenticating the Symptom—Illustrated by Defining "Character of Cough."* Seibert, W. A.

In this important paper, Seibert briefly elaborates one of the essential processes necessary for the authentication of the "homœopathic" symptom. The other steps are outlined in a paper on this subject published by Seibert in the Jour. A. I. H., 1911-1912, vi, 1258.

"The authentication of the symptom in the proving of drugs, we still maintain, is the greatest work before Homœopathy today."

"To give a drug to a healthy person, and to record accurately the symptoms produced, is a scientific process that will stand forever."

"The refinement of differentiation in symptomatology is a key-note in the science of *Materia Medica Pura*."

"Proving symptoms must be registered most accurately and we must all understand the same thing whenever we revert to them. Our dictionaries and a common comprehension of definition—accurate definition—must never be controvertible."

The elimination of some of the synonymous rubrics, the re-arrangement of remedies and the use of cross-references would result in a considerable reduction in the bulk of our repertories; reduction of bulk usually renders a tool more wieldy. These steps would undeniably contribute toward the establishment of the truth of our symptomatology.

The article would generously repay study by every physician who uses drugs.

74. *A Few Thoughts on the Study of Our Materia Medica*. Korndorfer, A.
- We must learn the general field of action, the specific characteristics and the pathological significance of each drug.

A review of the pharmacodynamic effects of *cina* is given in illustration.

75. *Whooping Cough*. Howell, F. M. E.

S. B. H.

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### BOOK REVIEWS.

**The Tonsils, Faucial, Lingual and Pharyngeal.** By Harry A. Barnes, M.D., Instructor in Laryngology, Harvard Medical School; Surgeon in the department for diseases of the nose and throat, Boston Dispensary; Assistant Laryngologist, Massachusetts General Hospital, etc. Published by C. V. Mosby Co., St. Louis, 1914. Price \$3.00.

From a wide laboratory and clinical experience the author has been able to produce one of the best books on this subject to date.

The development of the tonsil is treated more fully and in a more interesting manner than usual.

The chapter on the anatomy and histology of the tonsil is exceptionally good, the illustrations are all original, the histological plates from photomicrographs.

The section on diseases of the tonsils is plain and comprehensible, the surgical procedures being clearly described.

The chapter on surgery of the tonsils is clearly written and the author gives his method of removing the tonsils by means of surgical dissection which is well illustrated.

E. J.

**Fever: Its Thermotaxis and Metabolism.** By Isaac Ott, A.M., M.D., Professor of Physiology Medico Chirurgical College, Philadelphia; Member of American Physiological Society; Ex-President of American Neurological Association; etc. Paul B. Hoeber, Medical Publisher, 67-69 East 59th St., New York. Cloth, 166 pages, 14 illustrations. Price \$1.50 net.

NOTE.—These lectures were delivered at the Medico Chirurgical College. They have been thought worthy of publication, as the subject is one of maximal importance in the practice of medicine. The studies upon this subject have occupied the author for forty-five years, as a practitioner of medicine, and a physiologist.

This small volume is a treatise on fever from the standpoint of a physiologist. The history of the study of fever is gone into as an introduction to a review of the recent advances made in connection with the subject. Special attention is given to the author's own research work, and the relation of his results to the results of similar experiments by other men. Thermotaxis, thermogenesis and thermolysis are discussed at length, and great stress is laid upon the functions of the tuber cinereum and the corpus striatum. One of the most interesting studies recorded is the author's work on heat production and heat dissipation in relation to the bodily temperature, perspiration, weight and pulse during a paroxysm of malaria. It is shown here that heat production reaches its height during the chill and falls rapidly with the onset of the "fever stage," rising again slightly during the sweating stage. The experiment was made with a calorimeter. Heat dissipation falls rapidly just before the onset of the chill, then rises with the chill, and stays elevated during the chill, fever and sweat, after which there is a gradual fall. Protein metabolism, carbo-hydrate metabolism, metabolism of fats and water metabolism during pyrexia are entered into. Experiments on animals are cited to show that an increased bodily temperature above normal is beneficial rather than noxious in pyogenic infections. On the whole the book is well worth reading by all physicians and surgeons who have to deal with the great problem of treating cases of fever, but the reviewer regrets that the language throughout is so technical with advanced physiological expressions that much is lost on the average medical mind. Had the author indulged more freely in a more general terminology, or in more complete explanations of his own terminology, the book would far better hold the interest of the average reader. The book is rich in concise references which makes the work a distinct contribution to medical literature. C. W.

**The Anchorage.** A Philosophy of Life in English Verse. Compiled by and with a foreword by Alfred E. P. Rockwell. The Davis Press. Worcester, Mass. 1914.

Dr. Rockwell has compiled a most delightful little collection of poems by numerous authors, and has given us a foreword which is indeed worthy of profound consideration. He decries the present-day tendency of our youth to neglect good poetry, a condition which he ascribes to the interests of modern times in trivial matters. Whether he is justified in making a comparison of the present youth with the youth of former days in regard to this retrogression may or may not be correct. Certainly, good poetry is appreciated by the American public, as is evidenced by the poetry in the *Atlantic Monthly* and the *Century Magazine*. Without a demand for poetry these numerous poems would never be printed. The sale of poetical works by authors of the past and present is by no means at a standstill. The love of poetry is inherent in the average American citizen, but unfortunately it is insufficiently fostered in our schools, thus leaving the youth to educate himself in poetry as he has to do in classical novels. Most physicians by

their training and their experiences are of philosophical bent, and Dr. Rockwell's little book will be welcomed by the profession. As a means of obtaining relaxation and pleasure this collection of classic poetry is excellent.

C. W.

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### PAMPHLET REVIEWS.

**The Testimony of the Fathers.** By A. E. P. Rockwell. Reprinted from the *Boston Medical and Surgical Journal*, June 7, 1906.

Many of us have already enjoyed this paper, but as the contents are very pertinent to the present-day discussion of toleration in the medical profession we take this opportunity of calling the attention of *Gazette* readers to a pamphlet which hitherto has gone unnoticed by the homœopathic press. Dr. Rockwell has collected the remarks of some of the greatest American physicians of the old school regarding the position of homœopathic practitioners. He shows by these extracts that the really great thinkers are aware of the injustice done to physicians who chose to deviate from the old system of therapeutics. To any one who is interested in the subject, or who wishes to fortify himself against the bigotry and intolerance of our critics, this pamphlet should appeal. As a refined rebuke the pamphlet sets an admirable example for those who raise their voice against existing conditions of intolerance in medicine.

C. W.

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### Ohio University College of Homœopathic Medicine.

The Reunion of the College of Homœopathic Medicine of Ohio State University was held December 12, 1914, with a noon-day luncheon at the Ohio Union on the campus of Ohio State University, and an evening session at the Hotel Virginia of the city of Columbus. This was the first of what is purposed to be an annual affair in our college at the State University. It was one of the most enthusiastic meetings ever held in Ohio and certainly the most enthusiastic homœopathic meeting ever held at Ohio State University.

The Reunion was made notable from the fact that President W. O. Thompson of the University set forth in no uncertain terms the welcome which is extended to the Homœopathic College in the University. He also set forth in no uncertain terms the duty of the State in the matter of medical education. An address no less striking was made by Judge B. F. McCann of the Board of Trustees of the University, in which he assured the profession of the State of the honest support of the Board of Trustees in carrying on the work of the College of Homœopathic Medicine at the State University. One of the most stirring addresses of the day was made by Dr. T. A. McCann of Dayton, Ohio. Dr. McCann urged in his address that the loyalty and support furnished by the homœopathic profession of Ohio should now be disseminated among the laymen of the State who are patrons of homœopathy and who, if they only were made acquainted with the facts, would be glad to support in a financial way homœopathic medical education in the State. Dr. C. E. Sawyer of Marion, Ohio, who has been such an untiring worker and enthusiastic supporter of the cause of homœopathy in Ohio, was toastmaster at the luncheon. The earnestness and enthusiasm which was inspired by the President and the members of the Board of Trustees pervaded all of the addresses made during the afternoon, and let it be said that the luncheon session continued from 12.30 until after 5 o'clock.

The other speakers on the program were Dr. James C. Wood of Cleveland, Ohio; Dr. H. H. Baxter of Cleveland, Ohio; President Byron E. Miller of the American Institute of Homœopathy, Portland, Oregon; Dean W. B. Hinsdale of the University of Michigan; Dean James W. Ward of the Hahnemann Medical College of the Pacific; Dean George Royal of the

College of Homœopathic Medicine, State University of Iowa; Acting Dean Claude A. Burrett of the College of Homœopathic Medicine of Ohio State University.

The evening session at the Hotel Virginia was no less enthusiastic than the afternoon session. President R. O. Keiser of the State Society was chairman of the meeting. Addresses were made by Dr. Byron E. Miller of Portland, Oregon; Dr. Mary E. Mosher, second vice-president of the Institute of Homœopathy, of Boston, Mass.; Dr. W. A. Dewey, Secretary of the Council on Medical Education, of the University of Michigan; Dr. J. R. Horner of the Board of Trustees, Cleveland, Ohio; Dr. Sarah M. Hobson, secretary of the American Institute and editor of the Institute Journal, of Chicago; Dr. W. A. Humphrey, Professor of Gynæcology and Obstetrics of the College of Homœopathic Medicine of Ohio State University; Dr. A. E. Hinsdale, Professor of Materia Medica, College of Homœopathic Medicine, Ohio State University, and Dr. H. T. Beebe of Sidney, Ohio.

Alumni and friends of the college from all over the State of Ohio were present, and from every quarter came words of enthusiasm and support for the college at Ohio State University.

## SOCIETIES.

### **Boston District Homœopathic Medical Society.**

The annual meeting of the Boston District Homœopathic Medical Society was held at the Evans Memorial Building on Thursday evening, January 7. The usual program of medical subjects was supplanted by a meeting of social interest, and an exceptionally enjoyable evening was spent. A lecture that was greatly beyond the ordinary, beautifully illustrated and well delivered, was given by the Rev. Chauncey J. Hawkins on "The Trail of the Caribou." It was a pictorial description of backwoods hunting experiences in Newfoundland, and furnished an evening of enjoyment to every one in the large audience present. A collation was later served in the Biological Laboratory of the Medical School adjoining. The new officers elected for the ensuing years are as follows: President, F. W. Colburn, M.D.; first Vice-President, B. T. Loring, M.D.; second Vice-President, Fredrika Moore, M.D.; Secretary, Harold E. Diehl, M.D.; Associate Secretary, Rudolph Jacoby, M.D.; Treasurer, Edward W. Smith, M.D.; Auditor, William O. Mann, M.D.; Censors, E. S. Calderwood, M.D.; O. R. Chadwell, M.D.; F. R. Sedgley, M.D. Plans are being formed for the coming year and it is hoped to continue in equal measure the success that has attended the work of the year just passed.

### **Homœopathic Medical Society of Kings County.**

The 480th regular meeting of the Homœopathic Medical Society of the County of Kings was held December 22, 1914, the president, Dr. John F. Ranken, in the chair. A communication was read from Dr. George Taylor Stewart, of Manhattan, enclosing two letters from Sir Robert Perks, of London, England, asking the Homœopathic Societies to aid in the work of the Red Cross under homœopathic control in the hospital at Dieppe, France. The matter was left in the care of Dr. Ritch and Dr. Ranken.

The Bureau of Gynæcology, Dr. Mary Fish Fleckles, chairman, presented three papers. Dr. Walter Gray Crump, of Manhattan, read an interesting paper on Abdominal Cysts. Dr. Cornelia C. Brant, of Brooklyn, read a paper on The Report of a case of Vesical Insufficiency. Dr. Robert F. Walmsley gave his experiences as a spectator at the Freiberg Clinic. In discussing Dr. Walmsley's report Dr. Dieffenbach, of Manhattan, said that at a recent meeting of the Surgical and Gynæcological Society of Massachusetts there were three hundred medical men present, and the general opinion was that twilight sleep had come to stay; not one dissenting voice

was heard. In the discussion Dr. Wood of the Cumberland Street Hospital said that his experience was that it was not safe to leave the patient during the labor, as the head would come down to the vulva without bulging and the physician's presence was necessary. Dr. Ranken said that the lengthening of the second stage of labor, which was the usual result of the sedative, was a benefit to the mother and would lead to less laceration. The effect on the baby was brought up and the opinion was that doctors fussed too much with the babies after delivery; if they were put aside they would come up all right, provided the heart was working. Dr. Walmsley said that this plan was followed at Frieberg.

Under the Bureau of Preventive Medicine and Sanitation, Dr. Robert Lowell Wood, chairman, two papers were read. Dr. Charles F. Bolduan, of the Department of Health, read a paper on the work of his department. One interesting point brought out was that while the mortality of the children had been lessened there had been a perceptible increase in the death rate of people over forty years of age as compared with the rate thirty years ago. Dr. Thomas J. Riley, of the Brooklyn Bureau of Charities, read a very strong paper on the Social Significance of Industrial Accidents and Occupational Disease. The paper was a very interesting exposition of the benefits of employers' liability laws, and its relation to the relief of the widows and orphans of the victims of industrial accidents and disabling diseases.

The necrologist, Dr. J. Alexander Stewart, read a report on the death of Dr. George Nichols, the oldest member of the Society. Dr. Nichols was born at Stockbridge, Mass., in 1829, and died at his home, 306 Monroe Street, Brooklyn, December 19, 1914. He was graduated from the Medical College at Pittsfield, Mass., and later went to the Hahnemann Medical College of Philadelphia, and was graduated with the class of 1861. He came to Brooklyn in 1864 and practiced in that city more than fifty years. He joined the Homœopathic Medical Society of the County of Kings on November 10, 1868.

L. D. BROUGHTON, *Secretary*.

### **Newly Elected Members of the American College of Surgeons.**

The following homœopathic surgeons have been approved for fellowship in the American College of Surgeons since the annual meeting in Washington: O. S. Runnels, M.D., Indianapolis, Ind.; Stephen H. Knight, M.D., Detroit, Mich.; Oscar LeSeur, M.D., Detroit, Mich.; Daniel A. MacLachlan, M.D., Detroit, Mich.; Herbert L. Frost, M.D., Cleveland, O.

In accordance with the agreement made by the Regents of the American College of Surgeons with the Committee of the Institute, the American Institute of Homœopathy has been placed on the list of recognized national societies and now occupies a place in the College on a par with the American Medical Association.

The following surgeons have been elected to the Board of Governors as representing the American Institute of Homœopathy: Royal S. Copeland, M.D., New York, N.Y.; Walter G. Crump, M.D., New York, N.Y.; Burton Haseltine, M.D., Chicago, Ill.; Charles E. Sawyer, M.D., Marion, Ohio; George R. Southwick, M.D., Boston, Mass.; DeWitt G. Wilcox, M.D., Boston, Mass.

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### **IMPORTANT LEGISLATION.**

Boston, December 21, 1914.

Dear Doctor:—

By reason of the law passed by the last Legislature, which goes into effect January 1, 1915 (chap. 694 of the Acts of 1914), it is quite possible that some of our physicians may become involved in suspicion and litigation.

Please notify all members of your Society of the passage of the above mentioned Act, and request them to study the law, giving especial attention

to the provisions of Sect. 2; also the exemptions, as provided in Sect. 3, requiring every physician, veterinarian and dentist, to keep a record in a suitable book of the names and addresses of all patients to whom he dispenses narcotics.

The violation of the provisions of the Act shall be punishable by a fine of not less than fifty nor more than one thousand dollars, or by imprisonment in the house of correction or jail, for a term not exceeding one year, or by both such fine and imprisonment.

The two sections especially referred to read as follows:—

Section 2. It shall be unlawful for any practitioner of veterinary medicine or surgery to prescribe any of the drugs mentioned in section one of this act for the use of a human being, and it shall be unlawful for any physician or dentist to prescribe, sell, give away or deliver any opium, morphine, heroin, codeine, cannabis indica, cannabis sativa, or any preparation thereof, or any salt or compound of said substance to any person known to such physician or dentist to be an habitual user of those drugs.

Section 3. The provisions of this act shall not be construed to prevent any lawfully authorized practitioner of medicine or of veterinary medicine or of dentistry from prescribing, administering or dispensing any drug that may be indicated for any patient under his care: *provided*, that such prescribing, administering, or dispensing is not for the purpose of evading the provisions of this Act; and *provided, further*, that every physician, veterinarian and dentist shall keep a record in a suitable book of the names and addresses of all patients to whom he dispenses narcotics.

Your coöperation in this matter will be greatly appreciated.

Yours very truly,

WALTER P. BOWERS, Secretary.

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## SURGEONS AND SOLDIERS.

Enough authentic reports from surgeons on both sides of the line of battle in France and Belgium have now been made to show that the one great scourge of this campaign is lockjaw, and to indicate that serums are being used in large quantities in the effort to control half a dozen diseases.

That lockjaw would suddenly take its place as the most dreaded disease of the war was anticipated to a very limited degree, yet every one of the military hospitals is reporting a heavy percentage of such cases. The reasons for it are simple, however. The battles are being fought over agricultural lands that have been tilled so completely and for so long a time, with the accompanying use of common fertilizers, that most of the soil contains lockjaw or tetanus bacilli.

Artillery is depended on largely in the fighting, which results in wounds from bursting shells or shrapnel to a proportion much greater than in most previous wars. Such wounds are apt to be wide and jagged, and contamination from the soil thrown up by the bursting shell, or from earth on the soldier's clothing, is to be expected. These are the wounds that are followed by lockjaw.

Bullet wounds, on the other hand, are giving much less trouble than in previous wars, and seldom develop lockjaw. The high velocity of the bullets seems to sterilize them by the heat generated; so that if the wounds are promptly protected by a dressing the danger of lockjaw is largely avoided.

Tetanus antitoxin, one of the most modern aids of the doctor, accordingly has assumed an important part in the campaign. The antitoxin is valuable in proportion to the promptness with which it is injected into the patient. Heavy doses sometimes succeed in saving a patient who has a well-developed case of the terrible disease, but fail in many instances. If the injection is made soon after the infection success is much more likely.

Consequently the medical forces of both the Germans and the Allies

have called for large quantities of the antitoxin, to be used in the trenches and on the battlefields. The new rule is to inject the antitoxin immediately into every soldier who suffers a jagged or soiled wound, even before his first dressing; but only plenty of the life-saving fluid near the fighting line and quick attention for the wounded will bring the loss of life from lock-jaw back to the normal percentage.

Vaccines and antitoxins are now being used at the front to combat smallpox, typhoid, tetanus, blood poisoning and cholera. The most distinguished living authority on vaccines, Sir Almroth Wright, is acting as consulting physician to the Allies, directing this work.

Practically all the troops are now vaccinated against smallpox, and rapid progress is being made in inoculating against typhoid fever. The soldiers of the standing armies, who first went into battle, were protected against typhoid in most instances; but that was not the case with the reserves, and there was neither time nor opportunity to inoculate them on the outbreak of the war.

In the preparation camps all recruits are being dosed, and before long practically all soldiers at the front will have this protection. If cholera threatens the western field of war a cholera vaccine will be ready. Sir Almroth believes in the protection against pneumonia afforded by pneumonia vaccine; and if this disease becomes serious in the trenches he may be expected to begin vaccinating the soldiers for that.

For smallpox, typhoid, cholera and pneumonia the treatment is preventive—given before the disease attacks a soldier. The tetanus antitoxin is intended for injection when infection is suspected, following a bad wound; and this applies, also, to vaccine for blood poisoning. Large quantities of this have been supplied to the British surgeons, but the result of its use has not yet been made known.

The first-aid packets carried by every soldier in all the armies have demonstrated their immense value, but the German packets have obtained the reputation of being most successful. These are fastened on the outside of the coats of the German soldiers, so that they may be very accessible; and the design of the packet permits easy opening with one hand.

The dressings provided for immediate application to a wound are of the best. The French packets have met with some criticism because they are hard to open and are carried in inside pockets.—*From Saturday Evening Post, January 9, 1915.*

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## THE LESSON OF THE WAR IN EUROPE.

*To Our Fellow Citizens:*

For five months we have watched the ebb and flow of the blood-red tide of war in Europe: the tidings from its battlefields might stir the coldest heart to some sense of that "Infinite pity which is alone sufficient for the infinite pathos of human life." We need not dwell upon these awful pictures save as they may awaken us to a sense of the duty which presses upon us, which lies at our doors, the duty to endeavor by the grace of God to root out from the world this fearful disease.

It cannot be the will of our merciful Father in Heaven that this earth which He has made should suffer forever from the hideous scourge of war; but it is possible for us to oppose His will, to be so given over to the worship of force, to the lust for power, and to the selfishness and vain-glory of life, that we go on year after year building our battleships and destroyers, and forts, and assembling our armed hosts, until at last He takes us at our word and allows us to follow our own devices, to depend upon the sword and the right arm of man's power, and the shield of our own making. Then come envy and jealousy, strife and hatred, and some cry that Christianity has failed, while others invoke the aid and blessing of the Almighty upon the success of their arms.

Our country at this very hour is facing at once a fearful responsibility

and a glorious privilege: it is in our power to turn back this tide of militarism, to set an example from which the rest of the world cannot turn away. One of our own countrymen says that "militarism blights like a pestilential wind the higher life of nations and eats like a gangrene into the vitals of civilization"; and again: "All history testifies that a republic has no peril so insidious to fear as the growth of military power within its own borders." Let the history that is now in the making with such fearful rapidity bear witness to the wisdom of these warning words.

Therefore, why not stop? "Why not say in a tone audible around the world,—'We will go no further in this business?'" The deadly Upas tree of militarism has borne its fruit; let the world profit by the lesson.

Were it not better that the young manhood and the virile strength of our nation be consecrated and uplifted to the nobility of Christian Service, to the relief of suffering, to the help of the poor and the outcast, making the world a better place to live in?

With nations as with individuals, the nearer we come to our Heavenly Father, the nearer we come to each other in the brotherhood of man.

Battleships and armies and forts have proved beyond doubt that they cannot keep the peace; they have been tried and found wanting, and capital invested in the making of them becomes itself a menace to the welfare of the nation. Shall not the United States try the more excellent way, "the fruitful strifes and rivalries of peace"?

Fellow citizens, we entreat you to pause and consider these things,—to discern the signs of the times,—to seek the path of duty by that pure light of the Spirit of Christ which enlightens every man.

The Christian disciple serves a Master who "shall not fail nor be discouraged." "The field is the world"; we stand "for no one generation, for no single land"—the boundaries of nations are broken down in this awful time, and for the sake of our common humanity, in the name of Him who gave Himself for the life of the world, we make this solemn appeal.

On behalf of Philadelphia Yearly Meeting of Friends.

JOHN B. GARRETT,  
GEORGE M. WARNER,  
HANNAH P. MORRIS,  
ISAAC SHARPLESS,  
DAVIS H. FORSYTHE,  
DR. EDWARD G. RHOADS,  
GEORGE ABBOTT,  
JAMES M. MOON,  
WILLIAM BISHOP.

Please promote the circulation of this address among all interested in the cause of peace.

Additional copies will be forwarded free by mail upon request to

WILLIAM C. COWPERTHWAIT, 304 Arch Street, Philadelphia, Pa.

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### LIFE INSURANCE AND ALCOHOL.

At the recent annual meeting of the Association of Life Insurance Companies in New York a report of much interest from a bureau of investigation was presented by Mr. Arthur Hunter, chairman of the bureau. This report embodied the results of careful investigation, just completed, into the causes of premature deaths, during the last twenty-five years, among the 2,000,000 policy holders of forty-three leading life insurance companies; its special object being to enable the companies to arrive at a better estimate as to which classes of applicants can be insured at regular rates, which should be required to pay extra premiums, and which should be refused. Naturally, alcohol is a very prominent cause of mortality, and the report states that among the persons who admitted that they had occasionally drunk to excess

in the past, but whose habits were considered satisfactory when they were insured, there were 289 deaths; while had this group been made up of insured lives in general, it was computed that there would have been only 190 deaths. The excess mortality was, therefore, over 50 per cent., equivalent to a reduction of over four years in the average lives of these men. Among the fourteen subdivisions of those engaged in trades connected with the manufacture or sale of alcohol it was found that there was only one class in which there was a normal mortality, and that was the distillery proprietors. Among saloon proprietors, whether they personally attended the bar or not, there was an extra mortality of 70 per cent, and the recorded causes of death indicated that a free use of alcoholic beverages had caused many of the deaths. Hotel proprietors who attended the bar either occasionally or regularly had as high a mortality rate as the saloon keepers, life being reduced about six years, on the average, on account of their occupation. As an illustration of the good results which would ensue from abstention from alcohol the report refers to the enormous saving of human life that will be accomplished if the Russian government establishes permanent prohibition. The loss of 500,000 men as the result of the present war, it is stated, could be made good in less than ten years through complete abstinence from alcoholic beverages by all the inhabitants of Russia.

—*Boston Medical and Surgical Journal.*

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### HOMŒOPATHY AND THE WAR

No one so far has interpreted President Wilson's proclamation of neutrality and his message to the American people urging neutrality in spirit as well as in letter, as narrowing in any way the privilege of those who seek to mitigate some of the inevitable results of the terrible European war of choosing through which particular channel their philanthropies may act. One may decide to contribute toward the feeding of the starving Belgians; another may support the general Red Cross Fund for assistance to the wounded of the combatants, irrespective of nationality; while a third may select a particular unit of philanthropic endeavor and devote his gifts thereto. Thus the *New England Medical Gazette* feels that it is not at all inappropriate to suggest that, other things being equal, the homœopathic physicians of America should give whatever money they can devote to Red Cross or similar work in connection with the war, to a unit that is staffed by homœopaths and which is undoubtedly destined to reflect great credit, not only on those who are doing the active work, but also upon homœopathy in general.

Soon after the war broke out some of the surgeons attached to the London Homœopathic Hospital, thinking that the homœopathic profession and laity should do something for the wounded, endeavored to arrange for a unit under homœopathic management to act under the auspices of the British Red Cross. For reasons best known to itself the British Government, controlling the Red Cross activities, did not permit the acceptance of such an unit, so application was made to the French government. In France the offer was accepted and Mr. Dudley Wright, the well-known London homœopathic surgeon, left his splendid practice to assume command.

The first headquarters was at the Hotel du Rhin, Dieppe, placed at the disposal of Mr. Wright and his assistants, Drs. Hare, Cunningham, and Schley, by the municipal and military authorities. This provided a service of sixty or seventy beds and two ambulances.

The skill and executive ability of the staff soon made itself evident, and their services were requisitioned for other hospitals in the same part of France. Within a short time the French Government placed at their disposal an old monastery at Yvetot, fifteen miles from Rouen, and between this famous city and the seaport Dieppe. By this time a Mrs. Bartlett, of Rochester, N. Y., had become interested in the work of this unit and assumed charge of the housekeeping end of the institution. The monastery was put into the

best possible shape with a view not only to present needs as a surgical hospital to care for the wounded, but having in mind also that the war is liable to be succeeded by epidemics or the need for the care of convalescents over a protracted period. By means of funds subscribed principally in England, 500 beds were installed. It is understood that the nursing staff includes five American nurses, two of whom were trained at the New York Medical College and Hospital for Women. Mr. Stetson Taylor, a Harvard graduate, did "the work of a common laborer" in helping to get the new hospital at Yvetot in order.

Here, then, is an object which should command the support of every homœopathic physician who feels the call to do what he can in the name of a common humanity for his suffering brothers in Europe. Among the patients are many of the gallant Belgian soldiers. Help of every sort is urgently needed—doctors, nurses, surgical stores and equipment. Any money spent for equipment will not meet a temporary need only; the French Government has stated that the monastery will be made a permanent eleemosynary institution of some sort after it has served its present purpose as a soldier's hospital.

Many of the foregoing particulars are based upon information contained in letters addressed by Sir Robert W. Perks, of London, to Dr. George Taylor Stewart, of New York, who was in France, and later in London, during the opening days of the war. Other homœopathic laymen of distinction supporting this work include Earl Plymouth, Earl Dysart, and Sir W. Truscott.

An organization is being formed in this country to secure for this particular institution some of the hospital funds now being so generally and generously subscribed by Americans. It is understood that Mr. Frederick Coudert and Mr. Krech, president of the Equitable Trust Company, have consented to head this organization. These bankers and their friends have allowed themselves to become interested in this project not because of any homœopathic associations but because their attention has been drawn to the remarkable efficiency of this particular unit and the fact that an American woman is acting as matron, and that there are American nurses on the staff. The maintenance cost is being kept down to three francs (sixty cents) per bed per day.

The appeal from Sir Robert Perks comes as from a homœopath to a homœopath, and it seems wisest at the present time to keep separate the two classes of possible contributors: those who would give to the general organization named the Hospital Alliance because of the worthiness of the work per se, and those who would aid this particular unit because of its affiliations with homœopathy.

In New York City a committee has been named in connection with each homœopathic institution to solicit and collect contributions, and an open letter from a general committee on which these various institutions are represented is printed elsewhere in this issue. The *New England Medical Gazette* will be very glad to receive and acknowledge contributions. A subscription or pledge form will be found in the advertising pages of this number.

This is not a matter for New England only. Every homœopathic national, state, county or local society should join in this endeavor to uphold the hands of our homœopathic brethren in England in their humanitarian work for the wounded soldiers. Committees should be formed and patients should be interested.

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### FRENCH RED CROSS HOSPITAL AT YVETOT

The undersigned representatives of several committees appointed by the various homœopathic medical societies and institutions of New York and Brooklyn desire, by this open letter, to call the attention of the homœopathic profession to the remarkably efficient work which is being done by the Alli-

ance Hospital at Yvetot (near Rouen and Dieppe) in the present war, under the auspices of the French Government and with the support and endorsement of the London Homœopathic Hospital and the friends of homœopathy in Great Britain.

We appeal for liberal contributions to this most important object which may be sent through the *New England Medical Gazette*, 80 East Concord St., Boston, which will make acknowledgment of all sums received in its columns.

It is suggested that, in addition to your personal assistance, you inform such of your clientele as should be interested, of the needs and worth of this philanthropy, in order that those members of our branch of the medical profession who are devoting their services and money to the cause of humanity may have the support of all homœopathic adherents throughout the United States.

- GEO. W. McDOWELL,  
Pres. N. Y. State Homœo. Med. Soc.  
ROYAL S. COPELAND,  
Dean, N. Y. Homœo. Med. Coll. & Flower Hospital.  
CORNELIA G. BRANT,  
Dean, N. Y. Med. Coll. & Hosp. for Women.  
W. H. VANDEN BURG,  
Pres. Staff of Hahnemann Hospital.  
GEORGE W. ROBERTS,  
Surgeon, Hahnemann Hospital.  
WM. TOD HELMUTH,  
Surgeon, Flower Hospital.  
E. P. SWIFT,  
Pres. N. Y. County Homœo. Med. Soc.  
JOHN RANKEN,  
Pres. Kings County Homœo. Med. Soc.  
E. GUERNSEY RANKIN,  
Metropolitan Hospital.  
O. S. RITCH,  
Ex-Pres. N. Y. State Homœo. Med. Soc.  
A. L. ROOT,  
Pres. Staff of Metropolitan Hospital.  
W. H. PIERSON,  
Pres. Staff of Cumberland Hospital.  
W. S. MILLS,  
Metropolitan Hospital.  
GEO. TAYLOR STEWART,  
Chairman of Committee.
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## LOCAL TREATMENT OF ANAL FISSURE.

By JAMES A. DUNCAN, M.D., of Toledo, Ohio.

The writer describes a treatment for anal fissure which he has employed successfully for the past thirteen years. The fissure is brought into view by separating the folds, and the surface is lightly curetted, then thoroughly dried, and a drop of collodion applied. This takes only a moment or so. A recent ulceration requires but a single application. A sharp stinging pain lasting for only a few minutes is caused, and then the patient is left perfectly comfortable.

## RECENT DEATHS.

Dr. James S. Shaw, one of the earliest graduates of Boston University School of Medicine (class of 1876), died on January 1 at Beachmont, Mass., at the age of 76. Dr. Shaw was a brother of Dr. Anna Howard Shaw, the well-known suffragist and advocate of equal rights.

Dr. George G. Hitchcock, of South Hadley Falls, Massachusetts, died on December 20 at the age of 65 years, his death being the result of a fall.

Dr. Eugene B. Cushing (Hahnemann, Philadelphia, 1871) of Lynn, Massachusetts, died on September 21, 1914.

Dr. H. J. Hascall (B. U. S. M. 1879), of Shrewsbury, Massachusetts, died on September 19, 1914.

Dr. Walter V. Hanscom (class of 1890, Hahnemann Medical College of Philadelphia) died at Haverhill, Massachusetts, on November 7, at the age of 45 years. Previous to his removal to Haverhill he had been for sixteen years located at Rockland, Maine.

## PERSONAL AND GENERAL ITEMS.

Dr. Dudley A. Williams (B.U.S.M. 1900) has removed his office from 121 Angell St., Providence, to 223 Thayer St., same city.

Dr. Rudolph Jacoby (B.U.S.M. 1911) has removed from West Medford to 94 Washington St., Weymouth, Mass.

Dr. H. G. Adamian, class of 1914 B.U.S.M., has located at 260 Haverhill St., Lawrence, Mass.

Dr. Ellen L. Keith of Framingham, and her sister, Miss Keith, have recently been travelling through the South on their way to California, where they will spend the winter, visiting the Panama Exposition on their way back to Massachusetts in the spring. During Dr. Keith's absence her sanitarium is in charge of Dr. Brownell, former assistant physician at Westborough State Hospital.

Dr. Kirke L. Alexander, class of 1914 B.U.S.M., has opened an office in the National Bank Building, Orange, Mass.

Dr. Anna M. Skinner (B.U.S.M. 1903) has removed from 18 Hawthorne St. to 4 Bates Road, Watertown, Mass.

Dr. Bernice A. Bartlett (class of 1911 B.U.S.M.) has resigned her position in Allentown State Hospital, Pennsylvania, on account of ill health, and has returned to Bradford, Mass.

Dr. Helen B. Todd (B.U.S.M. 1914) has received appointment to internship at the Massachusetts Homœopathic Hospital, following her service at Norwich State Hospital, Connecticut.

Dr. Joseph A. Mason (B.U.S.M. 1913) has located at Bennettsville, South Carolina.

Dr. Helen G. F. Mack, class of 1895 B.U.S.M., is locating for the winter in Titusville, Florida.

PRACTICE FOR SALE.—Within ten miles of Boston, a \$7,000 practice for sale. Fine location in residential town. A great opportunity for the right man. Apply to "Business Manager," *New England Medical Gazette*, 80 East Concord St., Boston.

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS.

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### ON SOME OF THE COMPLICATIONS OF UTERINE MYOMATA.\*

By EDWIN A. NEATBY, M.D., Physician for Diseases of Women to the  
London Homœopathic Hospital.

No subject has been more thoroughly investigated during the last quarter of a century than that of uterine myomata. On no other single subject in the whole region of gynæcology has such an enormous amount of literature been accumulated. In no other sphere have such striking and brilliant advances in knowledge—life history, prognosis and treatment been made. When the writer was a medical student, the most advanced treatment of “fibroids” was the intra-muscular injection of sclerotic acid, applicable only to cases where hæmorrhage was the conspicuous feature. At that date (1876-1881) in the London Hospital no operation beyond the enucleation *per vaginam* of extruded myomatous polypi had been attempted. Prior to it, the patient was either left to the tender mercies of a disappointing menopause or subjected to various medicinal futilities. Now all this has been changed. It is true that we know little or nothing as to the etiology of these neoplasms, that there are many obscure points in the pathology of their degenerations and that the reasons for the occasional disappearance of considerable sized tumors after the climaxis, are not clear. On the other hand, the life-history of uncomplicated uterine fibroids is well known, their symptoms, when present, are clear and explicable. The treatment of these growths is definite, certain and brilliant. Medicine holds some place still, but it is mainly as a handmaid to surgery that it finds its sphere. Preparatory to operation and in favoring convalescence after surgical measures, medicine—and of course especially homœopathic medicine—can do much, and no wise gynæcologist despises its assistance.

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\*Written especially for the *New England Medical Gazette*.

Concerning straightforward, uncomplicated cases there remains little to be written, for the subject has been treated from all points of view, and a reiteration of well-known facts would be tedious. Careful records of these cases should still be kept, for they are useful when published, and should be collected and collated for statistical purposes. There are some moot clinical points which can only be settled by large numbers.

For the purposes of this paper the term "complications" in the title will be understood in its widest sense and somewhat loosely, and will be held to cover a number of departures from the usual average history of uterine myomata.

I. *Diseases of the uterine appendages* may be referred to as complications, and they may be divided into two classes (a) diseases of the ovaries and (b) diseases of the Fallopian tubes.

(a) The chief and most common ovarian condition which occurs in connection with "fibroids" is cystic disease. This may develop at any date in the history of the uterine growth. I will narrate two cases which furnish some features of interest. The first was that of a lady aged sixty-four, to see whom I was called into the country early last year, on account of hæmorrhages on exertion, which had recently set in. The patient had been ill for three months and had had some pyrexia, which was put down to influenza. She was a big, very stout woman, usually quite active. On examination the abdomen was found to be distended, the flanks were overhanging. There was resonance round the umbilicus, but dulness both above and below this point; even the flanks were dull and did not clear on change in position. No thrill could be felt anywhere.

*Per vaginam* the cervix uteri was found pointing to the left. The fornices were occupied by a hard mass, to which slight movement could be communicated from without. The same mass could be felt per rectum, which was pressed upon and distorted thereby.

It was obvious that the whole abdomen and pelvis were occupied by a tumor or tumors of uncertain nature. The bleeding and elevated temperature left no alternative to operation—unless indeed, a lingering and painful illness were chosen by the patient.

A point of some importance in the history was that from the age of thirty-four to that of fifty she was supposed to have a fibroid tumor which, in conformity with the prevalent teaching of that date, was relegated to the tender mercies of the "change of life." At about that time she had had severe hæmorrhages, followed by very considerable reduction in the size of the tumor.

When the abdomen was "opened" no peritoneal cavity could be detected. The whole of the tissues were matted together round a central abdominal cyst. It was as if liquid rubber had been poured in amongst the viscera and had solidified, forming with the

tumor a continuous, solid, but pliable mass. The only way to enucleate the tumor was, after cutting down to its surface in the most accessible spot gradually to dissect it out inch by inch, with the aid of fingers, scissors and scalpel, ligaturing bleeding-points as they arose. After two hours' dissection the tumor—a multilocular ovarian cystadenoma—was removed. The removal of this large growth—as large as a foot-ball—revealed a uterine myoma filling the pelvis and projecting into the lower abdomen. It then became clear that this uterine neoplasm, and not the ovarian cyst, was the cause of her trouble. However, the patient was unable to stand any further strain at the moment, so she was stitched up and put to bed. She was a very cheery subject and made a good recovery. A fortnight later the abdomen was re-opened and the myomatous uterus and tumors were removed. The same trouble with adhesions was met with. Unfortunately, the patient succumbed some hours later to what appeared to be thrombosis of the pulmonary artery. The endometrium had undergone carcinomatous degeneration—the source of her symptoms.

Another case showing the association of uterine myoma with ovarian cystic disease, was that of a lady seventy-seven years of age, and published in a paper read before the British Homœopathic Society. The patient was remarkably active, had no remembrance of any ailments, except cholera in 1866, from which she is said have made a wonderful recovery, as detailed in the Homœopathic Journal of that period. In 1914 her heart, blood vessels and lungs were healthy, she had not an artificial or unsound tooth in her head. There was œdema of the ankles, especially on the right side. She confessed to some gouty symptoms, to an irritability of the bowels, disturbing her at inconvenient moments, and to a certain abdominal embonpoint, to which she was unaccustomed; moreover, she was pale and decidedly sallow, arousing a suspicion that a malignant condition might be present.

Examination of the urine revealed a minute trace of albumin, a specific gravity 1022 and 2.3 per cent. of urea. She had had no children. Dr. Byres Moir, who sent the patient to me, found an elastic, movable swelling in the right side of the abdomen, extending to above the umbilicus. Vaginal and rectal examination revealed another mass in the pelvis, larger than one's fist and markedly pressing back on to the rectum—possibly accounting for some of the irritability of the bowels. This tumor also was movable.

We watched the patient for a fortnight, making the necessary urinary examinations, etc. She was put upon homœopathic doses of cacodylate of strychnine, with the result that she gained in strength and her cachectic appearance markedly improved.

As there was no definite evidence of malignant disease and in view of the lady's exceptionally good condition for her age, it was

decided to advise her to undergo the necessary operation. She was entirely ready to follow this advice. The diagnosis was ovarian cystoma, probably on both sides.

On November 11th, 1914, the abdomen was opened with the usual precautions. Some fragments of omentum were adherent to the abdominal wall and a tumor was exposed which measured five inches in diameter. Its color was dusky, and it was at first thought it might after all be uterine. On further investigation the lower pole was traced down to the right broad ligament. Attempts were made to deliver the upper pole, but this was prevented by the fact that the greater part of the surface was covered by closely adherent omentum and bowel.

It is my custom to make a large incision in cases of ovarian cysts, and where possible, to deliver the tumor whole,—i.e., without previous tapping. Sir John Bland-Sutton has pointed out how many apparently innocent ovarian tumors prove to be malignant, and that there is much less risk of infective dissemination when the cysts are not tapped.

I next determined to deliver the lower pole of the tumor, by first ligaturing and dividing the pedicle. This was found to consist only of a cord less than the thickness of my little finger; it appeared quite pulseless. The cord was found to be the pedicle twisted three times. It was obvious that the blood supply through the ovarian artery was very small, even if that vessel were patent at all. There were no symptoms of strangulation, so the blood supply must have been cut off very gradually and *pari passu* with its diminution, nutrition must have been increased by the formation of vascular adhesions. Only in this way can the continued vitality of the part be explained.

When the pedicle was divided, the lower pole of the tumor was engaged in the incision and delivery gradually brought about as the adhesions were stripped off the surface of the tumor. No injury was done to the intestinal wall; where the omental adhesions shewed signs of bleeding they were ligatured.

On examining the left ovary another tumor was found. This was supposed to be the mass, felt *per vaginam*, to be occupying the pouch of Douglas and pressing on the rectum. Very few adhesions existed in the case of this tumor, which was readily tied off.

During these manipulations nothing had been seen of the uterus, and on exploring the pelvic cavity a mass, nearly the size of a fist, was found on the floor of the pelvis. This was the uterus, enlarged by a myoma in its walls. Supra-vaginal hysterectomy was performed. This was easily carried out because the cervix was atrophic and the blood supply through the uterine arteries was small.

The uterus was incised after removal and a pale, flabby, inter-

stitial myoma was exposed, and in the body-cavity there was an unusually large cedematous-looking mucous polypus.

The operations of hysterectomy and double ovariectomy, complicated in one of the tumors by many adhesions, were completed in fifty-four minutes. Just before the operation a dose of omnopon was injected hypodermically and the patient slept soundly afterwards for five hours. She woke up without pain, and never had any throughout, except when coughing. After her long sleep she became somewhat restless and was decidedly helped by a few doses of *ignatia*.

For a week the patient was disturbed and occasionally distressed by mucus in the pharynx and trachea, which required an effort to dislodge and which caused broken sleep for a few nights; this was relieved by *ant. tart.* and by *kali bich.*

On the tenth day patient was feeling weak and was perspiring too freely, *Cinchona lx* was prescribed for this and for the looseness of the bowels; marked improvement followed.

During the second and third weeks the patient was disturbed by an irritability of the bowels; she had several stools daily and



some straining when only flatus was passed. The most useful remedy for this condition was podophyllum, followed by acid phosph. as prescribed by Dr. Moir.

The patient was lifted out of bed on the fifth day and was able to walk about the room without assistance, before I said good-bye to her at the end of three weeks.

The pathologist reported that the smaller ovarian cyst was multilocular—comprising a main cyst of three large loculi and numerous tiny thin-walled cysts on the surface. The latter were filled with clear yellow fluid and the contents of the main cyst were blood-stained. The large cyst was very similar, but the small loculi were less numerous. One or two small degenerate papillomatous ingrowths were present in the cyst. The lining epithelium was necrotic; both cysts were innocent. The uterus was enlarged and globular, with a large rounded encapsuled tumor in posterior wall, which projected forward.

The tumor on section was soft, easily torn and white in color. A very cystic polypus projected downward into uterine cavity, attached to the fundus by a broad base. The tumor was a fibromyoma, and had undergone very extensive hyaline degeneration.

The polypus was a simple mucous one, and had undergone extensive cystic change.

These two cases of fibroids, with ovarian complications, furnish some points for comment.

The larger ovarian tumor of the second case had a twisted pedicle—an event well recognized and not uncommon with ovarian tumors. It was, however, unique in my experience, in having its circulation cut off by the twisting, without any symptoms being present to indicate that torsion existed. As already mentioned the nutrition of the tumor was maintained through its vascular adhesions. It is highly probable that this tumor would in time have become detached from its original site by the thinning and absorption of its pedicle. This takes place and is a well-recognized event in the case of uterine myomata. I have seen some instances myself of these so-called “free” or “migratory” tumors. It is noteworthy that though slight rotation of a myomatous uterine mass is quite common—indeed frequent—a considerable degree of twisting is less common than in the case of ovarian pedicles; while the occurrence of complete “separation,” though well-recognized in the case of myomata, is almost unheard of in ovarian tumors. The reason of this is probably that strangulation of an ovarian pedicle is usually more rapid, induces symptoms which necessitate operation, and quickly proves fatal if not relieved by surgical aid.

The smaller ovarian tumor calls for no comment.

The small uterine myoma exemplifies a stage in the life-history of such tumors. The tumor, judging by the size of the cavity

of the uterus in a nulliparous woman, had been larger; it had reached an irreducible minimum by the natural process of hyaline degeneration, a universal feature in old myomata and the least noxious forms of degeneration which visits these growths.

The endometrial condition is one quite unusual in a woman who has attained the age of seventy-seven and especially in one who never suffered from menorrhagia. The actual size of the mucous polypus had probably increased by the cystic degeneration which it had undergone.

The necrosis of such a polypus in old women causes offensive discharge and perhaps hæmorrhage, which suggest the presence of cancer and require investigation as such. I remember operating on such a case many years ago for my colleague, Dr. Goldsbrough. In both these patients the myomata must have been in existence a great number of years—probably not less than thirty-five.

In the first case cancer developed some seventeen or eighteen years after the menopause, illustrating the fact known to gynaecologists that though a myoma may become very much smaller after the menopause, it does not cease to be a menace to its possessor. The danger of these cases is really greater after the clinaxis than before. Before, the hæmorrhage or the pressure or the rapid enlargement are obvious, open dangers. Afterwards, the myomatous or endometrial degenerations are more insidious, any signs they may furnish in the way of hæmorrhage or discharge being misinterpreted by patients as a return of the period, if occurring within a few years of the change; or ignored as of little moment if coming on many years later. In the second case, the myoma persisted over twenty years after the menopause, and a large polypus of the endometrium (already described) was present. In both cases quoted, the tumor of the uterus had subsided at the menopause and the ovarian tumors had originated after that epoch and were steadily developing.

Adhesions in both cases were an inconvenience during operation, and in the first probably the indirect cause of the fatal result. It is, I believe, a fair conclusion that the longer the tumors have existed, the more likely are dense adhesions to be present. This forms an argument for early operation, especially if the tumor is a mobile one, likely by friction to irritate the peritoneum; or if there have been attacks of pain, suggesting adhesive peritonitis.

I have learned to fear adhesions as one of the probable complications in old cases, and it is impossible to foretell or provide against them. One must take the risks. "Old cases" means here cases of long standing, whether the patient be very old or not.

(b) *Affections of the Tubes.*

Hydro-salpinx, pyo-salpinx and hæmato-salpinx may complicate myoma uteri—and in that order of frequency. The first indi-

cates a mild form of perimetritis, due perhaps chiefly to the pressure of the tumor. Some degree of this affection is not very rare—perhaps occurring in eighteen or twenty per cent. of the cases. It can rarely be diagnosed beforehand unless the tubal distension be very considerable and in this case it would, if felt, be quite likely to be diagnosed as an ovarian cyst. The only evidence pointing to its presence would be a history of attacks of pain, in cases where soft swellings were felt on the side or face of the myoma. The pus in a pyo-salpinx of mild degree may become sterile and the leucocytes or pus cells become absorbed. This is one way in which a hydro-salpinx may develop. Usually pyo-salpinx is a more acute complication. It may result from bacillus coli infection (owing to adhesions), from the use of a sound conveying infective organisms to the endometrium, from gonorrheal infection following the usual route, or from septic infection from a breaking down cancer of cervix or body, extending upwards.

A case I recently saw in conjunction with a hospital colleague had the following history, some important points of which, however, were not ascertained until after the patient's death. For twelve months she had had pelvic pain and for three months, vaginal discharge. During part of the year she had had dysuria and urethral discharge. Her father died of cancer.

The physical finding was as follows:—The abdomen was distended and an indefinite mass was felt in the lower abdomen. The uterus was hard and its mobility limited; the cervix was hard, large, nodular and breaking down. Offensive bloody discharge was abundant.

Temperature 101; Pulse 132 on admission to hospital.

The patient was watched for a few days, but she did not improve. On account of the abdominal distension and mild symptoms of obstruction, my colleague decided to explore, asking my assistance in case it turned out to be a purely gynecological case. Nothing was found higher up in the abdomen, but the pelvis was filled with a mass of viscera, cemented by inflammatory exudation. At first it was thought that the main mass was a myoma, but gradually, after many portions of adherent bowel had been severed, it became clear that only a few small fibroids were present, but that the broad ligaments were thickened by cellulitis and malignant deposit, the Fallopian tubes were thickened and distended with pus, the ovaries enlarged and adherent. The cervix was much enlarged by the carcinomatous involvement. A modified Wertheim operation was performed with a good deal of difficulty. It is doubtful in this particular case whether the myomata played any definite part in the production of its complications. Nevertheless, it illustrates the presence, in the same patient, of myomata, pyo-

salpinx and cervical carcinoma. The physical condition fully explained the distension, vomiting and pyrexia present.

Hæmato-salpinx cannot be diagnosed beforehand and is seldom a complication of importance. Free hæmorrhage into the abdominal cavity is less common, but more serious. It comes from a ruptured vein on the surface of a sub-peritoneal myoma. The rupture may occur spontaneously or be due to a blow on the abdomen, or a fall. Hæmorrhage may also occur into the broad ligament and spread up sub-peritoneally into the abdominal cavity, forming another variety of hæmatoma. I have seen one case of this kind, where the tumor was not large, but was growing into the left broad ligament. Hæmorrhage had greatly distended the left mesometrium and the chief part of the operation consisted in opening and draining the cavity. It was difficult to keep the orifice open until healing from the bottom took place.

2. *Torsion, etc.* Reference has already been made to twisting of the pedicle of a myoma and to the phenomenon of total separation. A "migratory" fibroid may ensue, and the separated fibroid may fall into the pelvis and cause considerable damage. A myoma detached in this way is usually not the only one present. If, after a separated tumor has fallen into the pelvis the main tumor continues to grow, severe pressure symptoms may arise. The rectum may be pressed upon and may slough, and the tumor be extruded per anum; similarly the bladder wall may be perforated. These accidents are more likely to occur if the migratory body has undergone calcareous changes and is consequently hard and rough.

Even if the separated tumor is well nourished by adhesions and does not fall into the pelvis, it may cause serious or fatal results. I recall a case where acute abdominal symptoms supervened, and I was asked to give an opinion as to the cause and as to the desirability of operation. No diagnosis was possible, but exploration was advised. A migrated fibroid the size of one's fist had become adherent to the mesentery and caused thrombosis of the mesenteric vessels and paresis of the intestinal wall due to commencing necrosis. Resection was performed, but the patient died in three days.

Though acute torsion of myomata or myomatous uteri is rare, some degree of axial rotation is common. It is only occasionally that symptoms are caused thereby.

A hospital patient, aged thirty-six years, had profuse menstruation and had noticed an abdominal swelling for two years. She had had some attacks of sudden, severe abdominal pain, on one occasion lasting a week and keeping her in bed; the lower extremities swelled, especially the left one, and she said the tumor seemed to change its position. To this I do not attach any importance,

as I do not think these axial rotations occur suddenly; they come on gradually and in response to certain irregular outgrowths, forcing the tumor and uterus to rotate in the direction of least resistance, to find room for the developing nodule; it more often occurs in hard tumors with very solid resisting nodules. In this instance the tumor was soft, but the growth of the mass had forced the left appendages gradually round past the posterior middle line, till they lay more anteriorly than should the right appendages—that is, rotation from left to right through more than half a circle had taken place. Adhesions were present, but no other difficulty presented itself during operation and the patient made a good recovery.

3. *Impaction* is a common complication and pressure symptoms of some kind are induced thereby. It is strange how the rectum usually escapes serious pressure. In many cases of large and tightly fitting pelvic tumors no constipation exists. The bladder, on the other hand, suffers early and often. In the early stages of impaction retention of urine occurs only just before and at the beginning of menstruation. The full establishment of the flow depletes the vessels, the tumor shrinks again, and the pressure on the neck of the bladder is lessened enough to allow of micturition. The retention may last only a few hours and relief come about spontaneously. As the tumor grows, each attack may last longer and the use of the catheter is called for. If left, dangerous and long-standing retention may occur. Retention, taking place periodically in this way, is pathognomonic of pelvic myoma becoming impacted. No other condition causes this sequence of symptoms. In a few cases, with a comparatively small tumor, retention takes place at quite irregular intervals and independently of the menstrual period. Here the tumor will be found in the fundus, making the uterus top-heavy. The patient may be unaware of its existence; she suddenly finds herself unable to pass water. On enquiry it will be found that she had been obliged to defer responding to the call to micturate for some longer time than usual and then found herself unable to empty the bladder. Such a case presented itself to me after a series of such events—always readily relieved by the catheter. After this artificial relief, the patient would go for many weeks possibly, without a repetition of the accident. Its occurrence was always brought about by deferred urination. What happened was that the full bladder caused the top-heavy fundus to fall back into the sacral hollow and pressed the cervix against the pubic arch. After emptying the bladder by the catheter, the uterus resumed the forward position, and the urethra was liberated. This form of retention is rarer than the other, and though suggestive, is less diagnostic.

4. *Pyometra* is less common in myomata than in carcinoma, but it is due to a similar mechanism in the two cases. Given an

infection of the endometrium no accumulation of secretion takes place under ordinary circumstances, that is to say, when the discharge has a free exit. When portions of the new growth block the escape, by closing the lumen of the cervix (the most common site of obstruction to the out-flow) or by shutting off the upper part of the body, pyometra either complete or partial takes place. In one of my cases an elderly woman had an enlarged uterus with offensive purulent discharge. A diagnostic curetting was performed, very little mucosa came away with the curette, but the lining was evidently very septic, for the odor was pronouncedly unpleasant. The whole uterus seemed thickened, especially the fundus. The discharge continued in spite of the scraping, which was followed by a rise of temperature, and it was decided to remove the uterus.

When the abdomen was opened, and the fundus uteri was seized with a vulsellum to draw it out of the incision, a gush of thick, dirty-yellow, offensive pus took place. Fortunately, the uterus was well packed off by gauze sponges and no harm resulted, the patient making a good recovery. It was found that a fibroid nodule blocked the cavity of the body almost completely at the upper part and had shut off a collection of pus at the fundus. This accumulation had caused a thinning of the uterine wall, which ruptured when grasped by the vulsellum. If operation had been long delayed, the abscess would probably have ruptured into the peritoneal cavity and fatal peritonitis would have occurred.

It is possible, of course, that the general cavity might have been shut off by the formation of adhesions. In this way the risk would have been lessened and postponed, but not averted.

If these narratives have a moral it is, by now, one well-known to all the readers of such a high class and influential journal as the *New England Medical Gazette*. Briefly stated it is that uterine myomata are by no means the harmless parasites they were at one time reported to be and that the degenerate and mischievous activity does not lessen when the functional activity of the sex organs has ceased. Many forms of degeneration might be dealt with here, but it would be somewhat outside the scope of the paper.

5. I will only make one concluding remark on malignant degeneration (carcinoma) of the endometrium of myomatous uteri. After a very careful study of my own cases and a critical study of many published statistics by various authors, I have come to the definite conclusion that myomata do predispose to cancer of the body of the uterus. For reasons not far to seek in studying this question the cervix must be excluded. If the body of the uterus alone be considered I have no doubt that cancer is more common in the endometrium of myomatous than of non-myomatous uteri. If this statement leads others to investigation on these lines the

result cannot be doubtful and it will certainly furnish an additional argument in favor of early removal of these growths.

I have neither the space nor the time to go into the statistics of fibroid complications and degenerations. Reference to the works of Howard Kelly, Cullen, Noble and many others will furnish the ground-work for such a study.

For "the greatest good of the greatest number" and of the individual, the sooner the profession and the public regard these growths as nefarious intruders, the better.

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### ASTHMA.

By DR. A. H. GORDON, M.D., Chicago.

In discussing the subject of asthma some months ago with one of our eminent specialists in another line of work, I was surprised to hear him say that it is not generally known by physicians that asthma is easily controlled and in a great majority of cases promptly cured by our improved methods of handling this disease; and furthermore, if the internists had such knowledge and success it ought to be published broadcast, so that every one would know of it. It was this that led me to select this subject.

If time and space would permit, I would like to go deeply into the discussion of the etiology, pathology and diagnosis of all the different phases and varieties of this strange disease; briefly, however, we have renal asthma, gastric asthma, cardiac asthma, dyspeptic asthma, ovarian asthma, hay asthma, and here one might invent a new term and variety and call it nasal asthma, reflexly due to malformations and diseases of the nasal passages, besides the so-called bronchial asthma which is looked upon as the only true asthma by many observers.

At this juncture it may be well to define bronchial or catarrhal or spasmodic asthma, and I think perhaps the best definition of all those given which differ only in minor non-essentials is as follows:

Asthma is a neurosis of the respiratory mechanism characterized by paroxysms of expiratory dyspnoea. You are all familiar with the paroxysm and also with the fact that during the intervals between the paroxysms there is often no inconvenience whatever. The more one studies asthma the more the opinion is forced upon him that it is of nervous origin and closely akin to epilepsy, hysteria and insanity. In fact, many cases are on record that alternate asthmatic attacks and epileptic seizures, and I had one patient who had hay asthma and attacks of melancholia and hysteria. Hers was a peculiar case, for although she had extensive nasal work,

septum straightened, tonsils removed and nasal passages put into first class condition, and everything possible otherwise done for her, nevertheless promptly on August 21st, each year, the condition appeared and she had to get out of Chicago. Her husband and friends often laughed and said they thought she was fond of travelling, as it did not make any difference where she went, she always made an immediate recovery and enjoyed herself to the limit, but couldn't return until after the first frost, or the conditions immediately recurred. For the past four years she has been unable to leave the city on account of an accident that made it impossible for her to move about and she has not been troubled with asthma. Her daughter, however, has developed true bronchial asthma.

Thus many cases might be cited from the experience of all of us to indicate that even the cases of asthma that seem to be reflex in origin are frequently dependent upon disturbed or deranged mental and nervous conditions, and they of course are most difficult of cure. That brings up the subject of the curability of the disease which was the *raison d'être* of this paper.

To cure asthma, one must first make diligent search for the cause and decide by most careful study of the case what particular form of asthma one has to deal with. Now, a knowledge of physical diagnosis and a training in case-taking will serve well; and I take this opportunity of emphasizing the absolute necessity of making an exhaustive physical examination of every case with complete card index records, which shall include family and personal history, as well as present condition as determined by the physical examination.

Having completed the examination, we are ready to treat the patient. If cardiac, renal, nasal, ovarian, uterine, gastric, intestinal, dental, cutaneous, bronchial, mental or nervous conditions that are abnormal, have been found, aim to correct them by surgical, hygienic, dietetic or medicinal means as may be indicated.

Surgical more for the nasal, ovarian, uterine and dental conditions; medicinal for the cardiac, renal, gastric, intestinal, cutaneous, bronchial and mental; and hygienic and especially dietetic for them all, for I have found almost all asthmatics habitually over-eat and suffer from indigestion in some of its forms.

The medicinal treatment is divided into two parts, treatment of the paroxysm and treatment during the interval.

I have discarded all the morphine, atropine, chloroform, lobelia, stramonium, potassium nitrite, amyl-nitrite and cocaine treatments of the paroxysms and pin my faith upon the hypodermic injection of 5 to 20 minims of adrenalin chloride; 15 minims being the usual dose. This rarely fails to relieve in from two to twenty minutes, and as one patient remarked is "worth a seat in Congress

to the sufferer." These may be repeated every three hours for a long period of time if necessary, without any deleterious results, but are palliative only or at least the curative effect is slight. During the interval the curative treatment must be instituted.

I am very particular about the diet but cannot go into this phase of the treatment extensively in this short paper. However, briefly, all indigestible foods are proscribed as well as irregular habits of eating. Meats, tomatoes, strawberries, tea and coffee and alcoholic beverages are not allowed. An exclusive milk diet in renal asthma is insisted on. Elimination by the skin, kidneys and bowels is carefully looked after. Fresh air and sunshine especially in the sleeping room are obtained to the greatest extent possible. Proper clothing is insisted upon, also regular habits.

Medicines used are not many, but are effective. *Grindelia robusta* tincture is my favorite remedy, particularly in spasmodic asthma. I use the soluble preparation which contains potassium carbonate. *Ipecac* 2x is very useful when its particular symptoms are present, viz., nausea and vomiting, attack excited by dust or odors, bronchitis, etc. *Arsenicum album* 6x or 3x, great prostration, attacks of great severity, anxiety and restlessness; useful both during the attack and in the interval if characteristic symptoms are present.

*Belladonna* 2x and *aconite* 2x have frequently been found useful when peculiar mental and other symptoms are present.

*Nux vomica* 3x in gastric forms and when elimination is bad; and last but not least *cratægus oxyacantha* tincture, for I have learned that the almost invariable sequel to all forms of asthma is dilatation and weakness of the right heart. This is well known and spoken of by all observers, but it takes personal experience to emphasize it, and it must be considered or the treatment will be likely to fail.

No doubt some of the other heart tonics would answer, but I have found most of them objectionable for one reason or another. *Digitalis* disturbs the stomach which is already bad; *strophanthus* is better but is very unpleasant to take; *strychnine* acting through the nervous system is not attended by the best results when given continuously for a long period of time, as must be done in the treatment of asthma, and so on through the whole list of heart tonics.

*Cratægus*, however, is always beneficial, and never, in my experience harmful. It can be given indefinitely for many months if necessary.

Following out the suggestion of the specialist who was somewhat skeptical regarding results, I have selected three cases from the many whose records I have on file, and hope they will be of interest.

No. I. A. R., age 45 years. Afflicted with asthma for seven years; referred to me January 4th, 1908; a paroxysm every other night since December 1st, following an attack of bronchitis, which is a frequent exciting cause. Family history bad. Father died of consumption at 34 years, and one sister at 29 years. Mother of heart disease. Personal history good. No serious illness except one attack of pneumonia in 1907; sick only four or five days. Physical examination shows heart, lungs and other organs in good condition, except slight bronchitis and some weakness of heart muscle.

Diagnosis: Spasmodic or bronchial asthma. Physicians had given up this case and stated that nothing but a change of climate could possibly relieve it. Jan. 8th, she had her last *severe* paroxysm, one *slight* attack about Jan. 20th, one Jan. 31st. In February had a severe attack of la grippe with no recurrence of asthma. This patient took the medicines till May 5th, when case was discharged as cured. There was a slight recurrence in November, 1908 which followed a "cold." This responded quickly to the medicines and from then till now there has been no return of the disease whatever.

Grindelia robusta, cratægus, arsenicum album, aconite, belladonna, hydrastis and bryonia were prescribed at different stages of the disease, as the conditions called for them, and at one time strychnia was given for about two weeks in tonic doses. The usual hygienic and dietetic instructions were given and carefully followed. The inhalation of fumes of burning stramonium leaves was permitted for the very few paroxysms which occurred at the beginning of the treatment.

Case No. II. J. R., age 50 years. Called at her home February 14th, 1912. Asthma for three months. In great distress; cannot lie down day or night. (Will omit family and personal history.) Wheezes all the time; coughs a great deal; free expectoration containing Cruschman's spirals. Physical examination confirmed diagnosis of bronchial asthma.

March 29th, 1912, discharged cured. No recurrence to date. She received belladonna, cratægus, ars. 6x and grindelia robusta while under my care. She eats, sleeps, works and lives as a well woman and is exceedingly grateful, I can assure you.

Case No. III. M. H., age 5 years. February 12th, 1913, was called to the home and found her just getting over a severe paroxysm. P. 144, T. 99 degrees at 11 A.M., breathing was still very bad, so gave her adrenalin, 10 drops hypodermically, with immediate relief.

Physical examination revealed bronchial asthma with weak right heart. Her former physician had given a diagnosis of "heart asthma" with an unfavorable prognosis, said she could not live

long. She had been suffering from the disease two years. It had been gradually getting worse until now it was very bad indeed. (Personal and family history omitted.)

*Grindelia robusta* and *cratægus* were prescribed; a tablet of adrenalin 1-200 and spartein sulphate  $\frac{1}{8}$  was left to control paroxysm, if possible, till I could be reached if another should appear; later a lithia preparation was prescribed for hyperacidity and scanty urine.

About March 26th a "bad cold" started up a bronchitis and the child had two slight paroxysms on two consecutive nights, which were promptly relieved by the adrenalin combination tablet, so that it was not necessary to call me to the house.

April 22, child is perfectly well. No paroxysms since March 26th and 27th. There has been no recurrence.

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## CARCINOMA ANTITOXIN AND SOLUTION OF CARCINOMA TOXIN AS AN AID IN THE TREATMENT OF MALIGNANCY.

By H. W. NOWELL, M.D., Boston, Mass.

Seven years ago I began the study of Lactic Acid and its decomposition products as a relative factor in malignant growths of the stomach. As a result of this study experimental research was undertaken. It soon became evident that this substance and its decomposition products have no influence on malignant tumors. These negative results have at least the positive value of eliminating one possible causative factor of malignancy.

While carrying out the above experimental work, there was a substance isolated from carcinomatous material,\* of which the exact nature is not known up to the present time, and probably an exhaustive investigation will be required to determine the exact chemical constitution. Definite facts of scientific interest have been published from time to time; the first in April 10, 1912, and then as follows: April 12, 1913; April 9, 1914.

In April, 1913, I first began the injection of serum obtained from rabbits that had been immunized against the carcinoma toxin. I will refer to work which is a correlation of work previously published. Experiments warranted the conclusion that carcinomata

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\* While the exact nature of this substance is not known definitely, since it cannot be obtained from any other tissue but that of a carcinomatous type, and then only when the cells are in a state of activity, it seems that it may be a product of a specific protein or other constituent of bioplasm. My method of procedure in obtaining this substance would seem to rule out the possibility of this being a specific enzyme, but there is reason to believe that when this substance is injected into the human body a specific zymogen may be thus activated and play a very important role in the process of immunity.

contain some substance or substances which are susceptible of isolation, and which when injected into healthy tissue produce results which are dependent upon the inherent chemical nature of the material itself. The direct implication of this conclusion was the possibility of producing an antibody, the effects of which would directly antagonize the toxic action of the tumor substance. Such serum when mixed with the original toxic substance in the proper proportions (for the action is presumably a chemical one), wholly nullifies the poisonous properties of the latter and renders the inoculation of animals with the resulting mixture entirely without pathological results to the animal.

Necropsies of many of the animals that had received toxic doses of the substance showed the presence of an increased peritoneal exudate, and this fluid was found to be more toxic than the original carcinoma toxin. While the general clinical picture produced by the two substances is the same, the tremendously increased virulence of the exudate bespeaks either a very much greater concentration of the original toxin or the presence of a new, more powerful substance similar in its character to the first. While the solution of the tumor extract is saturated, the method of separation is designed to lower the solubility of the original substance, and in its original form there is no reason to suppose that it would not be materially more soluble. This phenomenon may also be explained by the theory that the equilibrium of the incitor constituents of the blood becomes unbalanced, or in other words, the immune antibodies are completely overwhelmed by the antagonists or inhibitors, due, possibly, to the action of the toxic substance upon the nerve centres.

With knowledge gained from animal experimentation, I began the injection of serum obtained from rabbits that had been immunized against human carcinoma. A small percentage of cases showed symptoms resulting from extraneous substances in the serum, such as rash, slight renal congestion, etc. From the knowledge gained during the first series of seventy-five cases, a new series of two hundred private cases have been treated. Fifty of these cases are herein reported, the results being a fair estimate of the whole number treated. It must be borne in mind that the large majority of these were advanced cases, with no other hope of relief.

Since July 1, 1914, a solution of the carcinoma toxin has been used exclusively, this doing away with the protein effects as seen from the use of foreign serum. The action of this solution is to produce active immunization and the cases treated by this method during the past six months show evidence of the specific action of the solution, and seem to promise far better results than was obtained through the passive immunity conferred by the serum.

A large number of cases that have received prophylactic treatment following radical operation will be reported when time enough has elapsed to warrant the same.

Case 1. Mrs. S. First seen July 13, 1913. Inoperable recurrent adeno-carcinoma involving viscera in the abdominal cavity; with ascites. Patient given 14 injections of carcinoma antitoxin. Relief from pain; appetite improved; fluid in abdominal cavity lessened. Patient died while under treatment.

Case 2. Mrs. K. First seen April 22, 1913. Recurrent carcinoma lower lip, with glandular involvement. Operated upon April 8, 1913. Evidence of recurrence in open wound when first seen. Patient given 17 injections carcinoma antitoxin. Wound healed. Evidence of malignancy at point of operation and glandular involvement completely disappeared. General health improved. Has gained 20 lbs. in weight. Jan. 1, 1915, apparently in perfect health.

Case 3. Mrs. B. First seen May 29, 1913. Abdominal hysterectomy; removal of tumor incomplete; diagnosis: adeno-carcinoma. Patient given 5 injections carcinoma antitoxin. General health improved. No activity of disease shown since receiving treatment up to present time.

\* Case 4. W. B. Treatment begun Oct. 25, 1914. Growth removed from right side of lower lip. Pathological diagnosis: epithelioma. Patient given 16 injections of solution of carcinoma toxin. Before receiving treatment there was evidence of recurrence. This at the present time has disappeared. Patient has shown improvement in general health; increase in weight. Still under observation.

\* Case 5. Miss B. First seen Nov. 3, 1914. Recurrent carcinoma at site of previous operation right mammary gland, with metastatic nodules over entire chest and in left mammary gland. Patient given 20 injections of solution of carcinoma toxin. Marked decrease in size of all metastatic foci. Patient died Dec. 20, 1914, of pneumonia.

Case 6. Miss L. B. Treatment begun Aug. 1, 1913. Inoperable carcinoma of rectum. Frequent hemorrhages; constant pain; partial obstruction. Patient given 15 injections of carcinoma antitoxin. General improvement followed: relief from pain; cessation of hemorrhage; freer movements of bowels. Patient died October, 1914, while under treatment.

Case 7. Mrs. C. First seen Dec. 5, 1913. Inoperable carcinoma of vagina. Hysterectomy had been performed. Condition before treatment: frequent hemorrhage; foul discharge; vagino-

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\* Cases receiving toxin are starred.

Cases receiving both antitoxin and toxin are double starred.

rectal fistula. Patient given 16 injections carcinoma antitoxin. Hemorrhage stopped after first treatment; sloughing gradually ceased; absence of foul odor. Patient died October, 1914.

\*\* Case 8. Miss C. First seen July 11, 1913. Tumor of left breast, left axillary glands involved. Refused operation. Clinical diagnosis by family physician and surgeon: carcinoma. Patient given 17 injections of carcinoma antitoxin and 3 injections of solution of carcinoma toxin. Tumor and axillary glands entirely disappeared. Last seen Dec. 17, 1914. Patient will continue treatment.

Case 9. Miss M. C. First seen May 11, 1914. Inoperable carcinoma of rectum. Colostomy had been performed. Patient given 6 injections carcinoma antitoxin. No general improvement. Slight decrease in size of cauliflower mass in rectum. Patient died while under treatment.

Case 10. Mr. A. First seen July, 1913. Inoperable carcinoma of the tongue with glandular metastases. Patient received 28 injections carcinoma antitoxin. No improvement. Patient died while under treatment.

\*\* Case 11. Mrs. C. C. First seen May 29, 1914. Inoperable carcinoma of vaginal vault. Complete hysterectomy had been performed. Patient given 6 injections carcinoma antitoxin and 16 injections solution of carcinoma toxin. At beginning of treatment patient unable to leave bed; constant foul vaginal discharge, blood tinged; nausea and vomiting; loss of appetite. Present condition: up about the house doing ordinary work. Very little discharge; appetite fairly good; no nausea. Slight improvement in local condition. Still under observation.

\*\* Case 12. Mrs. J. P. C. First seen March 3, 1914. Inoperable carcinoma recurrent at site of previous operation left mammary, with metastases into axillary, supra- and infra-clavicular glands; left arm swollen and painful. Halstead operation. Patient given 13 injections carcinoma antitoxin and 3 injections carcinoma toxin. Marked decrease in all glandular involvement and swelling of arm, with much less pain. July 20th patient was advised by another physician to take another form of treatment, and has since died.

\*\* Case 13. Mr. J. C. First seen September 2, 1913. Inoperable carcinoma of rectum. Colostomy had been performed. Patient given 26 injections carcinoma antitoxin and 12 injections solution carcinoma toxin. Improvement up to Sept. 1, 1914. Complications (rectal abscess) at this time; gradual loss of strength, but no noticeable advance in primary disease.

\*\* Case 14. Mr. A. C. First seen Nov. 15, 1913. Inoperable carcinoma of cæcum and ascending colon, with enlarged mesenteric glands. Exploratory incision had been made. Received 9 injec-

tions carcinoma antitoxin and 3 injections solution carcinoma toxin. No mass palpable at present time. General health much improved. Still under observation.

\* Case 15. Mr. D. First seen Aug. 20, 1914. Inoperable carcinoma of liver and gall bladder. Exploratory incision had been made. Patient jaundiced, showing effects of autointoxication; very weak. Given 15 injections solution carcinoma toxin. Jaundice disappeared; urine cleared of bile; appetite improved. Patient able to leave bed and be up and about house. Died suddenly Oct. 8, 1914.

\*\* Case 16. Mrs. L. F. First seen in May, 1913. Recurrent carcinoma in scar in vaginal vault; inoperable. Constant foul discharge. Hysterectomy had been performed. Patient received 10 injections carcinoma antitoxin and 6 injections solution of carcinoma toxin. Complete disappearance of disease so far as is possible to determine, with marked improvement in general health; has gained 20 lbs. in weight. Case still under observation.

\*\* Case 17. Mrs. F. First seen May 8, 1914. Inoperable carcinoma of rectum. Vagino-rectal fistula. Colostomy refused. Patient given 8 injections carcinoma antitoxin and 22 injections solution of carcinoma toxin. Improvement: less tenesmus and pain; free movements of bowels where before there had been almost complete obstruction. General health good. Still under observation.

Case 18. Mrs. A. L. F. First seen Aug. 27th, 1913. Carcinoma extending from anus to sacrum, involving mucous membrane of rectum. Recurrent. Operated three times within one year. Patient given 16 injections carcinoma antitoxin. Complete closure of wound with disappearance of all evidence of malignant disease. Patient in apparently very good health Jan. 1, 1915.

Case 19. Mr. C. L. F. First seen June 5, 1913. Inoperable carcinoma of liver. Exploratory incision had been made. Patient given 8 injections carcinoma antitoxin. No improvement; patient died while under treatment.

Case 20. Miss S. First seen June 14, 1913. Inoperable carcinoma left mammary gland; degenerate cauliflower mass; foul discharge. Metastasis below margin of 9th rib, nearly the size of a hen's egg; fixed. Mass cut and scraped away as much as possible. Patient given 12 injections carcinoma antitoxin. Wound healed, with no recurrence of condition up to the present time. General health much improved.

\*\* Case 21. Mr. B. First seen May, 1913. Recurrent carcinoma of prostate; inoperable. Operated January, 1913, and again in April, 1913. Supra-pubic cystotomy. Partial removal at first operation; drainage at second operation. Patient received 36 injections carcinoma antitoxin and 7 injections solution of carcinoma

toxin. Marked general improvement; no advance in disease. Patient still under observation.

Case 22. Mrs. G. First seen July 30, 1913. Recurrent carcinoma of left breast, inoperable; carcinoma of right breast. Halstead operation performed on left breast. Patient given 11 injections carcinoma antitoxin. No improvement. Died while under treatment.

\*\* Case 23. Miss G. First seen Dec. 6, 1913. Carcinoma of rectum; inoperable. Patient given 24 injections of carcinoma antitoxin and 7 injections of solution of carcinoma toxin. General improvement following first ten treatments; then gradual decline. Died while under treatment.

Case 24. Mrs. H. First seen June 20, 1913. Inoperable carcinoma of rectum; pelvic metastasis. Exploratory incision had been made. Patient given but a few weeks to live. Received 10 injections carcinoma antitoxin. Gradual improvement shown after 3rd treatment, which has gone steadily on: relief of pain and pressure; free movements of bowels. Evidence of decrease in size of tumor so that at the present time she is able to resume her family duties.

\*\* Case 25. Mrs. J. H. First seen Aug. 11, 1913. Recurrent carcinoma at point of scar in vaginal vault, with constant foul discharge; showing emaciation and gradual loss of strength. Complete hysterectomy had been performed. Evidence of recurrence before patient left hospital. Given 9 injections carcinoma antitoxin and 3 injections solution carcinoma toxin. Patient showed improvement from beginning of treatment, with increasing strength and weight; foul discharge completely stopped at end of fifth treatment. Apparently well Jan. 1, 1915.

\*\* Case 26. Mrs. E. H. First seen Sept. 4, 1913. Inoperable carcinoma of rectum, with recto-vaginal fistula. Patient given 18 injections of carcinoma antitoxin and 5 injections of solution of carcinoma toxin. No improvement except marked relief from pain and improved appetite; gain in strength for the first 10 weeks. No change in diseased condition. Patient died while under treatment.

Case 27. Miss H. First seen April 5, 1913. Recurrent carcinoma of right breast. Gland removed sometime previously. Recurrence at site of scar. While under treatment second operation was performed. Patient received 10 injections of carcinoma antitoxin. No evidence of recurrence up to the present time.

\*\* Case 28. Mrs. H. A. H. First seen Sept. 2, 1913. Recurrent carcinoma in region of axilla along the line of scar following Halstead operation left breast. Patient received 16 injections carcinoma antitoxin and 8 injections solution of carcinoma toxin. Complete disappearance of metastasis. General improvement of

health, such as gain in weight, appetite, etc. Patient still under observation.

Case 29. Mr. J. M. H. First seen May 31, 1913. Inoperable carcinoma of rectum, involving tissue of the pelvis. Patient given 42 injections of carcinoma antitoxin. October, 1914, examination by surgeon showed absence of growth in rectum and pelvic cavity. Condition had steadily improved up to this time. Week following examination patient died as result of accident.

\*\* Case 30. Miss V. H. First seen May 31, 1913. Recurrent carcinoma involving vaginal mucous membrane. Complete hysterectomy had been performed. Operation for recurrent malignancy had been performed. When first seen vaginal vault filled with carcinomatous material. Patient cachectic; showing loss of weight; unable to attend to her duties. Received 35 injections carcinoma antitoxin and 8 injections solution of carcinoma toxin. Increase in weight, strength and appetite. Local condition: decrease in size of tumor growth; less purulent discharge; less odor. Patient able to resume daily duties. Still under observation.

\*\* Case 31. Mrs. W. I. First seen May 2, 1913. Inoperable recurrent carcinoma of uterus and vaginal wall, with vagino-vesicular fistula. Patient at the time was having frequent hemorrhages. Marked emaciation; extreme weakness; unable to get about without assistance. Given 40 injections carcinoma antitoxin and 2 injections solution carcinoma toxin. Improvement, such as gain in strength; increased appetite; slight increase in weight; absence of pain; absence of hemorrhage; able to get up and about; entertained friends during the latter part of summer of 1913 and winter of 1914. Went to summer home in June, 1914; remained in very good health up to August. Heart disturbance at this time following an attack of indigestion. Heart complications causing death in September, 1914. Necropsy showed the presence of carcinoma which had evidently not increased in size during the time of treatment.

\*\* Case 32. Mrs. E. E. S. First seen May 26, 1913. Inoperable papilliferous carcinoma involving contents of pelvis and mesentery and portion of small intestines. Exploratory incision made and fluid drained from cavity. Drainage continued. Following operation patient given six weeks to live. Received 20 injections of carcinoma antitoxin and 2 injections solution carcinoma toxin. Following treatment patient showed general improvement, such as increase in strength, appetite and weight; absence of pain. Condition from the start complicated with heart weakness; receiving treatment for the same during this time. Patient died from this complication Sept. 26, 1914.

Case 33. Mrs. McC. First seen May, 1913. Recurrent carcinoma at site of scar in left breast. Halstead operation left breast

had been performed. Patient given 20 injections of carcinoma antitoxin. General improvement, such as increase in weight and appetite; absence of pain with complete disappearance of nodules extending along line of scar into axilla. Patient not heard from since January, 1914.

Case 34. Mr. W. First seen in May, 1913. Inoperable carcinoma of rectum involving anus extending into buttocks. Constant foul discharge. Frequent involuntary stools. Mental condition unbalanced as result of strain under which he had labored, owing to the fact that the disease had been called incurable. Patient received 20 injections of carcinoma antitoxin. Mental condition immediately showed improvement; became able to direct his business affairs. Less discharge; gradual improvement of local condition until it became very little care. Increased weight; good appetite; able to go about the house and out of doors without assistance. Taken with sudden cold and died of pneumonia in October, 1913.

Case 35. Mrs. J. P. First seen July 23, 1913. Inoperable carcinoma left breast. This breast had been previously treated with external applications. Metastasis involving axillary glands. Received 29 injections carcinoma antitoxin. Complete disappearance of tumor in breast and axillary gland. Gain in weight. General physical condition good. Last treated Oct. 28, 1913. Died May 14, 1914, following operation for intestinal obstruction.

Case 36. Mrs. S. First seen June 17, 1913. Inoperable carcinoma of left breast; recurrent. Halstead operation previously performed. This involved large portion of breast extending back to margin of the scapula. Frequent hemorrhage. Constant discharge following treatment. Less hemorrhage; less discharge; general condition improved up to Dec. 22, 1913. At this time Potts disease showed itself, patient having had trouble of a similar nature a number of years previous. Died while under treatment Jan. 3, 1914.

Case 37. Mrs. L. A. L. First seen June 21, 1913. Inoperable carcinoma involving gall bladder, extension into liver, with adhesions about duodenum, and thickening of the pancreas. Exploratory incision had been made. Specimens taken. Patient given 7 injections of carcinoma antitoxin. Gained 22 lbs. in weight. Appetite good. Absence of pain and nausea. External palpation shows no tumor mass.

\*\* Case 38. Mr. W. First seen June 5, 1913. Papilliferous adeno-carcinoma of bladder. Patient given 25 injections carcinoma antitoxin and 14 injections carcinoma toxin. When patient was first seen there was bleeding with every urination. Pain and pressure; gradual loss of strength. Supra-pubic cystotomy with removal of cauliflower mass. A year later recurrence and explora-

tory incision made; found to be inoperable. During treatment patient showed general improvement, such as increase in weight, appetite and strength. Bleeding completely stopped. Cystoscopic examination recently made by surgeon showed condition unchanged so far as growth is concerned. Following this examination there was slight bleeding, which has since been controlled. Patient resumed duties in August, 1913, and has since been able to attend to same without inconvenience. Still under observation.

Case 39. Mrs. T. First seen Nov. 12, 1913. Recurrent carcinoma at site of scar in vaginal vault, with vaginal membranes involved. Vagino-vesicular fistula and recto-vaginal fistula. Patient given 14 injections of carcinoma antitoxin. When first seen, patient was confined to bed; much pain; marked emaciation. Gradual improvement in general way; disappearance of all evidence of carcinomatous growths in vagina. No evidence found in rectum or bladder. Fistulæ still remain. At present time patient is able to be up and about for ten to twelve hours each day, doing fancy work and attending to her personal wants. Still under observation.

Case 40. Mr. S. First seen June 1, 1913. Inoperable carcinoma of rectum. Troubled for many years with prolapsed rectum; frequent hemorrhage; much pain. Given 24 injections carcinoma antitoxin. During this time patient has also received autogenous vaccine of streptococcus. Improvement shown from the beginning of treatment, such as lessening of pain; increase in appetite, strength and weight. At present writing is in good condition; approximately one watery discharge daily, showing evidence of some irritation. No foul discharge, as heretofore.

\*\* Case 41. Mrs. E. S. First seen July 31, 1913. Inoperable carcinoma of left breast, with evidence of internal metastasis to the pleura and lung. Broken down with foul purulent discharge. Coughing constantly. Patient given 30 injections carcinoma antitoxin and 12 injections solution carcinoma toxin. Improvement, such as lessening of discharge; absence of odor; gradual closing in of edges of wound. Coughing relieved. Physical condition good. Dec. 10th caught severe cold, resulting in lobar pneumonia. At present is convalescing from the same.

\*\* Case 42. Mrs. R. Inoperable carcinoma of pelvic organs. Partial removal of tumor growth. First seen Oct. 29, 1913. Patient received 12 injections carcinoma antitoxin and 2 injections carcinoma toxin solution. First treatment immediately following operation. Patient convalesced slowly, with gradual improvement in general health. Growth in pelvic region apparently decreased in size. Movement of bowels with less pain. Patient died of Pneumonia October, 1914, while under treatment.

Case 43. Mrs. P. First seen May 13, 1913. Recurrent car-

cinoma left breast. Halstead had been performed. Entire left breast denuded of skin; tissue degeneration; foul purulent discharge. Left arm swollen to three times its normal size. Patient received 12 injections carcinoma antitoxin. Improvement in general health; gradual lessening of diseased area with new tissue formation over the same for about seven-eighths of its extent. Swollen arm reduced to normal. Patient died while under treatment in latter part of September, 1913.

\*\* Case 44. Mr. P. First seen May, 1913. Inoperable carcinoma left side of face involving one-half of nose. Several operations had been performed. Physical condition poor; much pain; sleeplessness. Patient received 31 injections carcinoma antitoxin and 12 injections solution carcinoma toxin. Improvement; gain in weight; absence of pain; appetite improved; able to sleep. No improvement in local condition. Gradual destruction of tissue continues, but evidently has been retarded. Still under observation.

\*\* Case 45. Mrs. F. L. P. First seen June 24, 1914. Inoperable carcinoma of cæcum and ascending colon. Very much thickened mass. Exploratory incision had been made. Patient given but a short time to live by physician in charge. Received three injections carcinoma antitoxin and eight injections solution carcinoma toxin. Immediate improvement shown. At present time impossible to palpate mass; only slight thickening being felt. General health much improved. Previous to treatment great deal of gas, with partial obstruction of large intestine in region of mass. Muscles throughout body very flabby. General condition now much improved. No trouble with gas; bowels move freely. Tone muscles much improved. Patient able to attend to daily duties and social affairs. Still under treatment.

\*\* Case 46. Mrs. McA. First seen May 24, 1913. Recurrent carcinoma at site of scar in vaginal vault. Complete hysterectomy had been performed. Frequent hemorrhage; constant discharge; gradual loss of weight; no appetite; unable to sit up but for a short while; extremely nervous. Patient given 31 injections carcinoma antitoxin and 10 injections solution carcinoma toxin. General improvement shown: less hemorrhage; less foul discharge; gradual increase in strength; appetite good; patient able to be up and about, taking automobile trips and attending to daily duties, as she did before her illness. Still under treatment.

Case 47. Mrs. O. First seen June 4, 1913. Inoperable carcinoma right breast; broken down. Axillary glands involved. Received 35 injections carcinoma antitoxin. No improvement except absence of pain, which had been previously very bad. Died while under treatment.

\*\* Case 48. Miss A. P. First seen May, 1913. Inoperable carcinoma right breast, the whole breast being a cauliflower mass,

moist and discharging constantly. Metastasis to left breast. Patient received 48 injections carcinoma antitoxin and 19 injections solution carcinoma toxin. Mass now very much smaller than when first beginning treatment. General condition improved. Involvement of left breast much smaller in size. Patient still under treatment.

Case 49. Miss M. S. First seen July 1, 1913. Inoperable carcinoma left groin, with glandular metastasis to right groin. Broken down, with foul purulent discharge. Growth had been removed. Patient received 10 injections carcinoma antitoxin. Diseased tissue sloughed; wound healed. At present time no apparent sign of disease except scar at site of original mass.

Case 50. Mrs. G. C. First seen Aug. 18, 1913. Inoperable recurrent carcinoma left breast with metastasis to left lung and pleura with enlarged mediastinal glands. Halstead operation had been performed. Patient received 11 injections carcinoma antitoxin. No improvement. Patient died while under treatment.

Of the two hundred cases, fifty of which are herein reported, 21 are apparently well; 46 markedly improved; 42 slightly improved during treatment; 9 not improved; 22 not heard from for more than six months, and 60 have died.

In conclusion I would state that I firmly believe the carcinoma toxin does have a specific action in these cases, but where there is a large amount of carcinomatous tissue present, with possibly a few exceptions, nothing need be expected other than a slight retardation of the disease, with some improvement of the general health of the patient. With the evidence already at hand I feel warranted in making the statement that patients receiving carcinoma toxin before operation and immediately following operation, should have a better chance for ultimate recovery. To make this determination absolute, the surgeon must coöperate with the workers in the research laboratory. I realize that there have been great strides in mechanical efficiency of surgical procedure, but reliable statistics, I am sure, will show a large percentage of recurrent carcinoma. My own records for 1913 and 1914, a total of 762 cases, not including cases treated immediately following operation, were as follows: advanced to an inoperable stage, 266; recurrent, 496.

**LOGICAL DERMATOLOGICAL REASONING. \***  
**(DIAGNOSIS.)**

By RALPH BERNSTEIN, M.D., Philadelphia, Pa., Clinical Professor of  
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The science of teaching dermatology has never been placed upon comprehensive lines. There has never been presented a logical method of procedure in the teaching of dermatology to either physician or student. Every day we hear the general practitioner crying aloud: "I know nothing of dermatology." The physician is not to blame.

The method of instruction which the physician received during his collegiate days is to blame. His course in dermatology consisted merely of didactic lectures, of which he remembered nothing, and when it came to his clinical work cases were presented to him by the teacher, the diagnosis made by the teacher, and the treatment outlined by the same teacher.

As to the method of procedure in making said diagnosis and outlining its treatment nothing was said, because the teacher himself had no method of logical procedure. He diagnosed his cases on visual experience alone. The student's visual experience was naturally limited to the few cases which he saw.

The writer, therefore, intends to present to his readers a method for logical dermatological reasoning, practically the same as he presents to his students in dermatology at the Hahnemann Medical College and Hospital of Philadelphia, with the hope that it will prove interesting and instructive as well to the general homœopathic practitioner.

The writer will, as well, attempt to present his subject in a clear and concise manner, omitting all pathological detail and laying stress solely upon a method for quickly and correctly coming to diagnostic conclusions.

Obsolete terms of the older writers such as "milk crust," "scurffy eruptions," "scald head," "ringworm spots," "dry herpes," and the like, will be omitted, which mean nothing to the modernist and have only assisted in the confusion now existing in dermatologic nomenclature.

So much for a prelude, and now for the method of procedure.

There are but four logical questions which the physician need ask his patient in order to diagnose any of the more common skin diseases, to wit:—

1. How does your skin disease annoy you?
2. When is your annoyance worse?

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\* Written especially for the Homœopathic general practitioner and exclusively for the *New England Medical Gazette*.

3. How long have you had your skin disease?

4. Where do you have it?

Complete visual inspection, and perhaps the assistance of the microscope in discerning some of the more common skin micro-organisms, will complete the first part of the procedure.

The next and most important step is logical reasoning.

To the question "How does your skin disease annoy you?" we will presume that the patient has given the predominant complaint as one of itching. Then the physician must naturally think only of itching dermatoses, and he at once, therefore, eliminates those which are characterized by pain or lack of any sensation. The physician, therefore, knows at once that his patient is not suffering from erysipelas, herpes zoster, sycosis vulgaris, or perhaps furunculosis, all of which are more or less painful. He as well at once recognizes the fact that his patient is not suffering from alopecia areata, chloasma, impetigo contagiosa, lupus erythematosus, psoriasis, or perhaps purpura, all of which are practically without sensation.

The physician then naturally turns his mind back to itching dermatoses upon which he concentrates his full thoughts of reasoning. The great majority of skin diseases itch. There are three, however, of the more common ones which are peculiar as to their time of itching. The three to be considered are eczema, seborrhœic dermatitis and scabies.

We are now ready for the patient's second answer as to "When is your itching worse?" The patient invariably answers one of the following three: "My itching is constant, or my itching is worse at night, or my itching is worse when warm or overheated."

Invariably it is eczema when the patient states that the itching is constant. Nine times out of ten it is seborrhœic dermatitis when the patient states that the itching is worse when warm or overheated, and ten times out of ten it is scabies when the patient states that the itching is worse at night.

So far now as the physician's reasoning process has gone he must bear in mind, however, that in order to diagnose scabies on its subjective symptomatology, he must back up his diagnosis with the results of his visual observation.

The same as well refers to both eczema and seborrhœic dermatitis.

The patient's answer to the third question: "How long have you had your skin disease?" will at once decide in the physician's mind as to whether the disease is one of long or short duration, which will assist materially in proper reasoning. For instance, in a dermatose of years' duration the physician would hardly think of pityriasis rosea or impetigo or scabies, because the two former

are of short duration and at times self-limiting in their progress, and are as well amenable to treatment; and the physician would hardly think of scabies because of the fact that the patient would have sought and found early relief from this intensely nocturnal itching dermatose. The physician, therefore, would be more apt to think of psoriasis or lupus erythematosus or perhaps lichen planus, all of which come under the class of long duration skin diseases.

Question number four: "Where do you have it?" Here the physician must remember that a total and complete inspection is absolutely necessary and that he must never take the word of his patients, because of the fact that either intentionally or unintentionally they are wont to play the part of consummate actors or actresses, often leading the physician far astray; so it is the wise physician who looks for himself.

If the lesions are located upon the scalp, then the physician will concern himself with such conditions as alopecia areata, ring-worm, seborrhoea, psoriasis, eczema, favus, pediculosis, and the like.

If upon the face, he would be more apt to be concerned with acne, perhaps associated with rosacea, erysipelas, lupus erythematosus, epithelioma, or perhaps impetigo contagiosa.

If upon the lips, he would think of herpes simplex, epithelioma, chancre, or perhaps angio-neurotic oedema.

If upon the bearded region, true sycosis or barber's itch, cocco-genic sycosis or sycosis vulgaris, and perhaps eczema.

If in the mouth, leukoplakia, stomatitis, mucous patches, or perhaps epithelioma would present themselves for consideration.

If upon the back and shoulders, then the physician would think of acne, seborrhoeic dermatitis, psoriasis, pediculosis, and the like.

If upon the chest, tinea versicolor, scabies, and the various syphilides would come up for consideration.

If upon the genitals the physician would think of scabies, eczema, herpes, or perhaps dermatitis venenata.

If upon the crural regions, then intertrigo, tinea cruralis or ring-worm, and erythrasma present themselves, and so on.

Visual inspection will as well determine for the physician the type or types of lesions present. This is decidedly important, and the physician will therefore be ably assisted in his reasoning process by his knowledge of lesional dermatology.

Surely if the predominant type of lesion is vesicular, or perhaps pustular or papular, then the physician will only be concerned with the particular type of predominating lesions; for instance, if the condition is decidedly vesicular, then the physician will be concerned only with such conditions as eczema, dermatitis venenata, or perhaps herpes.

If the predominating type of lesion is pustular, then impetigo

contagiosa, or pustular acne, or pustular syphilide would present itself for consideration.

Again, if the predominating type of lesion was papular, then the physician would think of lichen planus, or lupus vulgaris, or perhaps psoriasis. If, however, the lesions were erythematous in nature, then erythema multiforme, rosacea, or perhaps intertrigo would present themselves for consideration.

A knowledge of the dermatologic affections which are more common to the various ages of life will be of decided diagnostic value to the physician. For example, among the more common diseases of infant life are intertrigo, pemphigus, eczema and the like. During childhood the physician would think of varicella, measles, impetigo, or perhaps ring-worm. During the age of adolescence, acne, scabies, alopecia areata, psoriasis, and perhaps syphilis would come up for consideration. Then again in middle life the physician would be necessarily concerned with such conditions as rosacea, seborrhœa, or perhaps lupus erythematosus; while in old age, epithelioma, tertiary syphilis, or perhaps pediculosis corporis, or senile pruritis.

The history of recurrent attacks in dermatologic affections will assist the physician materially in his reasoning process. For instance, repeated attacks of a scaly dermatose which has for its predilection the extensor surfaces of the extremities, would naturally point to psoriasis; and where, perhaps, a history of recurring eruptions which are of a rapidly appearing and disappearing type, with decided itching, would point to urticaria.

The distribution of lesions will often be of assistance to the physician if he will bear in mind that a generalized symmetrical eruption is perhaps due to some internal causal factor; while lesions which are limited to the protected portions of the body may be possibly due to parasites or fungi such as is to be seen in pityriasis versicolor, because of the presence of the micro-organism, the microsporon furfur, which prefers to have its abode on a portion of the body which is protected from light.

It will be well for the physician to bear in mind that tertiary syphilides are usually unilateral, and that artificially produced lesions, otherwise known as dermatitis factitia, are usually in those locations which are quite easily accessible to the hand. It is as well important for the physician to remember that ring-worm seldom appears upon the scalp of the adult.

If the physician will bear configuration in mind in his reasoning process it will assist him materially, as, for example, certain eruptions present themselves in circular outline, or perhaps are festoon-like, produced by the coalescence of circular segments. Among these are to be considered syphilis, alopecia areata, psoriasis, trichophytosis, erythema multiforme, seborrhœic dermatitis of

the body, and perhaps lupus erythematosus. Each of these conditions, however, having as well their own distinct features which will further assist in their differentiation.

It would be well for the physician to think of the skin disease under consideration as being luetic until he can prove it otherwise. This as a routine procedure will often be of great assistance in coming to diagnostic conclusions, and would probably have remained unthought of had the physician not insisted on this routine in his process of dermatologic diagnostic reasoning.

Often a luetic history will be absolutely negative, because of the skilful avoidance thereof by the patient either intentionally or unintentionally. If, however, the clinical manifestations are there, and by exclusive reasoning the physician believes he is dealing with a cutaneous syphilide, then he should so consider it. A Wassermann or Luetin reaction or a four to six weeks' test treatment with the indicated homœopathic mercury will easily decide the question.

With the foregoing method of dermatological reasoning the physician should make the microscope his constant companion, so that when in doubt he can easily determine by simple methods of procedure as to whether the disease is micro-organic or non-micro-organic in character.

These methods of bacteriological procedure are fully dealt with in the author's text-book, "Elementary Dermatology." (Boericke and Runyon.)

So much then for the first lesson. In the near future it is the author's intention and pleasure to write a companion article taking up a consideration of a "Logical method of procedure in determining the proper topical treatment of skin diseases."

## JOINT-BODIES FROM WITHIN IN ARTICULATIONS OTHERWISE APPARENTLY NORMAL.

By AIMÉ PAUL HEINECK, M.D., Chicago, Illinois.

The joint-bodies herein considered occurred in joints otherwise sound or presenting lesions determined by the joint-bodies themselves or by the violence responsible for their presence. Joint-bodies due to local articular disease (tuberculosis, gonorrhœa, suppurative arthritis); secondary to systemic disease (nervous arthropathies, tabes dorsalis, etc.); symptomatic of mono- or poly-articular arthritis deformans, constitute other chapters of pathological anatomy and, therefore, are not considered in this contribution.

Therefore, in formulating our conclusions, we eliminated:—

1. Cases reported with insufficient data or with only unimportant details.
2. Supposed or true cases of fragmented, displaced or detached semi-lunar cartilage.
3. Cases of extra-articular bodies which previous to operation had been mistaken for cases of joint-bodies.
4. Cases of extra-articular bodies of intra-articular origin.
5. Cases of joint-body lodged in joint-capsule diverticula, communicating, or not, with the general synovial cavity.
6. Cases of a nature so distinct from that of the joint-bodies herein considered that their inclusion would serve no useful purpose, would needlessly confuse the reader (pedunculated chondrosarcomata).
7. Cases in which pre-existing or co-existing disease of the articulation can be considered a contributory etiological factor.
8. Cases of mono- or poly-articular arthritis deformans.

To avoid misstatements and to have accurate data as substructure of our conclusions, in all the cases considered, the diagnosis was verified either at the operating, dissecting or post-mortem table.

We attempted to determine the following facts relative to joint-bodies originating within the organism:—

- a. What is their incidence
  1. As to age?
  2. As to sex?
  3. As to articulation involved?
  4. As to association with pre-existing or co-existing, congenital or acquired, anomalies of the affected articulation?
- b. Their etiology, structure and pathological anatomy.
- c. Their symptomatology.
- d. Their differential diagnosis.

e. Their treatment—operative or non-operative. If operative, should one resort to local or general anesthesia? To joint-lavage? To joint-drainage? To immediate closure of the articulation? To immobilization? What is to be the nature of the post-operative treatment?

f. Results of operative treatment.

g. Conclusions.

Basing ourselves upon a careful study of the English, French and German literature of the last twenty years, upon our clinical experience, we came to the following conclusions:—

It can be asserted that—

1. Joint-bodies are found in articulations otherwise normal or presenting only such anatomical changes as are induced by the joint-body or bodies.

2. They occur in joints, the seat of pathological states (congenital or acquired), having no relation, either as cause or effect, to joint-mice,

3. They can co-exist with various articular lesions either due to the same causative violence, or secondary to joint-body irritation or to totally distinct and independent causes.

4. They occur at all ages, in both sexes, in the white and colored race. They are met with maximal frequency in the male sex and during the third and fourth decades of life.

5. They are single or multiple, free or pedicled, and involve one or more similar or dissimilar joints.

6. They may co-exist with extra-articular bodies and with various pathological conditions of peri- and extra-articular structures.

7. They vary as to nature, shape, size, mobility, surface characteristics and as to relation to articular bone ends and synovial membrane.

8. All, sooner or later, undergo degenerative anatomical changes.

9. All, irrespective of origin, sooner or later, determine degenerative anatomical changes in one, or more, or all of the structures constituting the joint.

10. Violence is the first and foremost etiological factor. It may be direct (bumps, blows, falls, etc.) or indirect (torsions, efforts, sprains, strains, etc.), slight, moderate or severe, and cause, in addition to the joint-body other articular and peri-articular injuries. In exceptional instances joint-bodies are the result of inflammatory and of neoplastic processes.

11. Joint-bodies, organized blood-clots being excepted, are composed of one, two or more of the constituent tissues of the joint. In structure they are either of a fibrous, lipomatous, osseous, cartilaginous, osteo-cartilaginous or mixed nature. The joint-

bodies reported in the literature where chips or fragments of bone, of cartilage, of bone and cartilage, masses of thickened indurated connective tissue, organized blood-clots, fibromata, lipomata, chondromata or osteomata.

12. As to articulation involved, it can be asserted, that—

a. No diarthrodial joint is immune.

b. Excluding the joints of the upper extremity, right and left-sided joints are involved with about equal frequency.

c. The knee and the elbow are the most frequent seats of joint-bodies; in the other articulations, joint-bodies are clinical and pathological rarities.

d. They are found over five times as often in the knee as in all the other joints put together.

e. All bilateral cases reported in the literature are knee cases.

13. Joint-body symptoms are referable to three factors:—

a. The injury causative of the joint-body. The causative injury determines symptoms of acute articular and peri-articular joint inflammation, symptoms analogous to these occasioned by strains, sprains, contusions, fissures of cartilaginous articular surface, and other joint-traumatisms.

b. To the joint-body proper.—The joint-bodies of themselves determine one, more or all of the following symptoms:—Joint-pain and tenderness, joint-swelling, joint-crepitus, joint-effusion, joint-disability, joint-locking. These symptoms are merely suggestive of the condition which we are discussing. If the joint-body be palpable, the diagnosis is facilitated. It is absolute if the existence of the joint-body is demonstrated by the fluoroscope or skiagram.

c. To the joint-changes induced by the presence of the joint-body.—Joint-body or bodies determine secondary articular changes and thereby induce symptoms varying from slight to complete joint crippling. Repeated attacks of joint-locking and recurrent hydrarthrosis are responsible to a large degree for the deviations from the normal in contour, attitude and measurements of the affected articulation and also for the impairment of joint-function.

14. An attempt should always be made to diagnose not only the presence of joint-mice, but also their number, location, nature and other characteristics.

15. Roentgenography is an invaluable aid to diagnose the presence, number, location and nature of joint-bodies. The X-ray examination of a joint should include an antero-posterior and a lateral view. Though the X-ray plate be negative, joint-bodies may be present. If a joint-body from within be not the seat of calcific deposits or contain no osseous portion, it casts no shadow upon the X-ray plate. X-ray findings have merely a confirmatory value.

16. An articulation, the seat of a pathological process difficult

of diagnosis, should be radiographed. Often, this results in establishing a correct diagnosis.

17. An articulation, the seat of a pathological process uninfluenced by the appropriate treatment of the condition thought to exist, should be radiographed. Often, this will result in invalidating and correcting the diagnosis previously made, and thereby suggest a positive curative treatment.

18. The only relatively frequent condition which is difficult, at times, to differentiate from joint-bodies, is a partly or completely detached or ruptured semilunar cartilage. This condition also calls for an arthrotomy; therefore, the mistaking of a joint-body for a detached or ruptured semilunar cartilage or vice versa is not a significant diagnostic mistake.

19. Cases of joint-bodies are not infrequently unrecognized, misdiagnosed and, as a result, subjected to injudicious and, at times, actually injurious treatment.

20. Primary joint-bodies, irrespective of origin, location, nature, volume, number, mobility or surface characteristics, invariably impair, sooner or later, the anatomical and functional integrity of the articulation which harbors them.

21. Joint-bodies should invariably be removed by an open operation, using that incision which gives best access to the joint-body or bodies, and which inflicts the minimal amount of permanent injury upon the peri-articular structures. Chronic synovial effusions are dangerous to the integrity of the joint and justify the very slight risks which attend modern aseptic methods.

22. Important operative points are:—

a. General anesthesia.

b. Use of an Esmarch constrictor which is removed immediately after ablating the joint-body and before suturing the capsular wound.

c. Incisions parallel to the long axis of the limb.

d. Location and length of incision determined by the site, size and number of the joint-bodies.

e. Removal of joint-bodies by aid of instruments. Intra-articular manipulation should be reduced to a minimum.

f. No joint-irrigation.

g. No joint-drainage.

h. Separate suture of capsule and cutaneous wounds.

23. The removal of joint-bodies is an operation of great simplicity, having no morbidity and no mortality. If an arthrotomy be performed with aseptic precautions, the risks to the articulation, immediate or remote, are nil.

24. The removal of joint-bodies is followed by more or less complete anatomical and functional recovery. In cases of long

standing, the return of complete functional integrity is not always immediate.

25. No one should be allowed to go about suffering from primary loose or pedicled joint-bodies. Operation cures the condition and in a large majority of cases leads, sooner or later, to a complete return of anatomical and functional integrity.

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### REFRACTIVE ERRORS IN SCHOOL CHILDREN.

By E. G. WHINNA, M.D., Medical Inspector of Philadelphia Bureau of Health, Physician to the Philadelphia Home for Infants, Ophthalmologist to the West Philadelphia Homœopathic Hospital and Dispensary.

Argument is no longer necessary to support the idea of medical inspection in the public schools. The necessity for such health supervision is now firmly established in the minds of all progressive school people.

The American people are beginning to realize that for many years there was little if any attention paid to the physical development of the children in our public schools. All that was formerly considered was the brain of the child.

Today conditions have somewhat improved, but there is still great need for further improvement in the development of the bodies of the schoolboy and girl, for it must not be forgotten that the scholar consists of a body as well as a brain, and that the physical constitution must suffer if the body is neglected in order that the brain may be overdeveloped. Ten years ago the question of refractive troubles in children of the public schools was hardly considered. Today states, counties and municipalities throughout the length and breadth of the land are legislating and advocating the passage of adequate laws to protect the eyesight of our children.

New York, California and a majority of the New England States have passed laws during the past few years, making it compulsory for every child in the public schools to have his vision tested at least once a year, and if any defect exists, the parents are notified, and are obliged by law to take the child to some *reputable oculist*, and have such defect remedied.

The proper time to correct errors in refraction is in childhood, between the ages of ten and fifteen years, as the lens of the eye is more elastic at this period than in later life.

In making the examination the Snellen Test Card should be used. The first letter seen on the card should be recognized at a distance of 200 feet, the next two letters at 100 feet, the next three letters at 70 feet, the next four letters at 50 feet, the next five letters at 40 feet, the next six letters at 30 feet and the last seven letters should be seen and recognized at a distance of 20 feet.

Each eye should be tested separately, as a child may have apparently normal vision using both eyes, but one eye may be doing all the work, while the other eye is comparatively useless. The vision of both eyes may be apparently normal, and yet an astigmatism may exist, causing a train of symptoms known as eye strain, such as headache, tired feeling in the eyes and an inflammation of the lids. The child is unable to apply himself for any length of time to close work without a feeling of pain in the eyes, burning lids and dull headache. This condition is readily overcome by having the error in refraction corrected and the wearing of astigmatic cylinders.

Great care should be exercised in diagnosing cases by test cards only. Because a child has full vision it does not necessarily signify that the child's eyes are normal, but merely that there is good acuity of vision, which may be entirely due to the power of accommodation; and in order to determine the presence of a refractive error it may be necessary to use a mydriatic to put the ciliary muscle at rest. This is accomplished by instilling into the eyes certain drugs such as homatropin or atropin, which relax the accommodation, dilate the pupil and admit of a true refraction.

Every child with errors of refraction is not a mental defective, but the pupil who suffers from defective vision remaining uncorrected, must be below the mental status of another child of equal abilities who is not handicapped by such a disability. As to the cases of squint so often met with in school children, they are frequently dependent on gross errors of refraction, and can be greatly benefitted if fitted with the proper glasses. Often by correcting these defects early in life, the eyes improve sufficiently in a few years to allow the child to discard the glasses.

The results obtained from the correction of eye defects are usually good, but we must remember that the proper time to make the correction is in childhood, as prolonged eye strain sets up pathological changes in the tissues of the eyes, and even after the removal of the cause the results may still remain for some time.

**FORCEPS IN OCCIPITO-POSTERIOR POSITION.**

By WILLIAM H. STILES, M.D., San Bernardino, California.

In the studying of the various complications arriving at the time of labor the matter of position and the relative frequency of the various presentations and positions is of importance.

Statisticians would have us to believe the vertex presents in 95 per cent of all cases, the face in one per cent, or a little less, the breech in three per cent, and the transverse in about one-half of one per cent.

The vertex is of course the most favorable of all, and nature is indeed kindly in her efforts where so large a per cent are of this character.

Of the vertex presentations 70 per cent are in the left oblique position and 30 per cent in the right oblique. Practically there is not much choice in those two positions where occiput is forward, as far as the mother and child are concerned, or danger to the integrity of the vaginal outlet; one readily rotates to the right and the other to the left, the occiput coming under the arch in either case, the position most favorable for all concerned. But with the occiput posterior, the face presenting, is the position I desire to speak of at this time.

It would appear to me the matter of one per cent of face presentations is too small an average.

I think I have had several each year for some time, and know I have not had several hundred confinement cases each twelve months; at least I have found the occiput posterior frequent enough to make a study of the subject of interest to me and find that with the double application of the forceps I can, as a rule, change an occiput posterior case to one of occiput anterior.

Prompt delivery often becomes necessary where the occiput is posterior, either in the right or left oblique diameter, and the first essential is to make a correct diagnosis of the position of the head.

Theoretically this should be easy, but practically it is often very difficult. When interference is necessary in either of these two positions, the head is usually at the level of the ischial spines or a little below. At this time if you can find the small fontanel in the right or left posterior diameter the diagnosis can be made. This is, however, often troublesome, because of the difficulty of reaching the fontanel in this position, and may require the introduction of the entire hand, a procedure not always wise. The posterior ear, however, can generally be located and this should be sufficient for the first application of the forceps. In this, the first step of the operation, the blades are applied to the sides of

the head with the pelvic curve looking toward the face of the child.

As the right occipito-posterior is much more frequent than the left, a description of this will be sufficient, as in the left the maneuver is simply reversed.

After locating the posterior ear, which in this instance will be the right ear, you first introduce the left blade over the right ear, generally easily done, let this be held by a nurse or assistant in exact position, while you introduce the right blade which is rotated anteriorly, often with some difficulty, until it lies opposite the blade first introduced, when if in position the blades will lock. The handles now point toward the mother's left in an oblique position. Downward traction is then made until the head is well down toward the pelvic floor, when you rotate to the mother's left until the head is in a transverse position with the handles toward the mother's left thigh. Continue this rotation until the occiput is obliquely anterior. The forceps handles will be in the left posterior oblique position.

The forceps are now removed and applied in the usual occipito-anterior position and delivery quickly made.

Some criticism may be made of this maneuver because of the application of the left blade first, since the handle of the left branch lies above the right and cannot be locked. But I have never found any difficulty in lifting the right handle over the left, which brings them in proper positions for locking.

This double application of the forceps in occiput posterior presentations is known in obstetric parlance as "Scanzoni's Maneuver."

The arguments in its favor are:—an early delivery with ease after the usual methods have failed, an early termination of a labor which promises to be long and tedious, with shock to the mother and child, and certainly much less danger to the pelvic outlet.

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### **COCCYGODYNIA: A NEW METHOD OF TREATMENT BY INJECTIONS OF ALCOHOL.**

By FRANK C. YEOMANS, A.B., M.D., of New York City, N. Y.

The diagnosis is established by a thorough examination, both general and local. Local examination is made by inserting the index finger into the rectum and palpating the coccyx between it and the thumb outside. The soft parts intervening between the coccyx and anus are now compressed and the point of maximum tenderness is thus located, usually just beyond the tip of the coccyx. Proctoscopy rules out rectitis.

The prognosis hitherto has been better in the traumatic cases than in those of frank neuralgia or neuritis. The writer confidently predicts that the treatment proposed will render the latter equally amenable to treatment.

The writer proposes a treatment based on the suggestion of Schlosser in 1907, of injecting 70 to 80 per cent alcohol in sensory nerves, thereby causing their degeneration as practised with marked success in trifacial neuralgia.

The technic is simple and can be carried out in the office under strict

aseptic precautions. The patient with empty bowel is placed on a table in the Sims' position and the skin about the coccyx painted with tincture of iodine. A 2 c. c., Luer or similar syringe is filled with 80 per cent. alcohol and armed with a two-inch needle. The right index finger is now inserted into the rectum and the point of maximum tenderness is determined by counter pressure with the thumb outside. Maintaining the finger in the rectum to guard against puncture and as a guide, the needle is introduced through the mid-line directly to the painful spot, and 10 to 20 minims of solution are injected slowly.

The needle is withdrawn and its puncture sealed with collodion. The pain from the injection lasts a few minutes and is followed by a dull ache which may last a day or two. From three to five injections are usually required at intervals of about one week.

The writer reports seven cases, all women, treated from two months to four years ago. They required three, four or five injections each at intervals of about one week. Relief was prompt and complete and all the patients have remained well.

### NOTICE TO THE PUBLIC FROM THE MASSACHUSETTS COMMISSIONER OF HEALTH.

The following diseases have been declared by the State Department of Health of Massachusetts to be *dangerous to the public health* and so reportable by law. Householders and physicians must now give immediate notice to the local board of health of all cases of:

Actinomycosis.

Anterior Poliomyelitis.

Anthrax.

Asiatic Cholera.

Cerebro-spinal Meningitis.

Chicken Pox.

Diphtheria.

Dog-bite (requiring anti-rabic treatment).

Dysentery:—

a. Amebic.

b. Bacillary.

German Measles.

Glanders.

Hookworm Disease.

Infectious Diseases of the Eye:—

a. Ophthalmia Neonatorum.

b. Suppurative Conjunctivitis.

c. Trachoma.

Leprosy.

Malaria.

Measles.

Mumps.

Pellagra.

Plague.

Rabies.

Scarlet Fever.

Septic Sore Throat.

Smallpox

Tetanus.

Trichinosis.

Tuberculosis (all forms).

Typhoid Fever.

Typhus Fever.

Whooping Cough.

Yellow Fever.

Your attention is called to the fact that in accordance with the provisions of chapter 670 of the Acts of 1913, notice of cases of any disease declared by the State Department of Health to be dangerous to the public health shall be given in such manner as the State Department of Health may deem advisable. On December 15 it was voted that such notice shall be given by physicians on postal cards supplied to physicians by the local board of health with the complete list of such diseases printed thereon for their information.

ALLAN J. McLAUGHLIN, M.D.,

Commissioner of Health.

### LIVED ON MILK A WHOLE YEAR.

"I believe absolutely in this idea of an all-milk diet," said a man. "I lived on nothing but milk for a whole year, and look at me."

"On nothing but milk?" queried a physician. "At what age?"

"During the first year of my life," quietly answered the man.—*Exchange*.

## EDITORIAL.

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Books for review, exchanges and contributions—the latter to be contributed to the *GAZETTE* only and preferably to be typewritten—personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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### FALLING IDOLS.

At pretty regular periods various of the old school journals appear with sorrowful articles heralding the downfall of another cherished idol. Sometimes these articles cover whole groups of idols, and again only single ones.

The December 12th number of the "Journal of the American Medical Association" laments the passing of "expectorant drugs." The summary of its editorial is to the effect that there "ain't no expectorants and never was." The journal says:

"When one stops to consider the prescriptions of alleged expectorants which are written literally by the hundreds day after day, it may seem somewhat captious to ask whether the practice has any admitted scientific basis."

Notice the words "alleged expectorants." Such heresy as doubting that there were real expectorants would make some of the fathers in old school medicine turn over in their graves and cough.

Here again the journal says:

"The present situation may be summed up by admitting that the bedside study of the action of expectorants offers at present insurmountable difficulties. Admixture of saliva, the loss or gain of water in the respiratory tract, and other factors influencing the amount and viscosity of sputum, apart from the spontaneous changes that may occur as an incident of disease, offer variables too complex to untangle in human patients."

Will the chasers after "specifics" ever learn that the so-called "insurmountable difficulties" of ascertaining the action of drugs "melt like dew before the rising sun" when studied after the manner of Hahnemann by direct provings upon the healthy human

being? Of course there are no "expectorants," and every homœopath for a hundred years past has known full well that he could never place any reliance in the "expectorant" treatment for affections of the respiratory tract. The term "alleged expectorants" is good, and it does seem passing strange that this chimerical belief should have held sway for so many decades.

But listen to the crash of another idol. That same "Journal" in the January number has an editorial on "Stomach Bitters." The passing of these household idols is a matter of such moment that the "Journal" feels it necessary to speak of them editorially. What will Mrs. Medical Grundy say when she reads this?

"The prescription of 'bitters' of various sorts belongs to those inherited procedures in practical medicine that antedate the modern period of scientific criticism and therapeutic skepticism. Why they are ordered, or what they really accomplish for the person who takes them, has usually either been answered in only the vaguest terms, or overlooked entirely by teachers of therapeutics."

This enlightened journal actually does admit that there are methods and procedures in old school therapeutics which are "inherited," and which really "antedate modern methods." That is the most encouraging note from old school therapeutists which we have heard in a long time.

Now brothers of the old school, we want to join hands with you and say "good!" We are with you in your efforts to eliminate from the pharmacopœia the inert drugs which have for decades kept their place by virtue of inheritance, but which have never done a day's work in their lives. Have they not been pensioned long enough, and should we now not bury them forever? However, by joining you in saying a fond farewell to Mrs. Expectorant and the orphans of Mr. and Mrs. Stomach Bitters, here's hoping that you will recognize the oncoming vigorous family of drugs which has been known to the homœopathic wing of the profession for a hundred years, and which rarely fail when administered according to law.

If after throwing off the time-honored yoke of "inherited" beliefs which "antedate modern methods" you will but go one step further, brothers, and approach with an open mind the subject of internal medicine as based upon the law of similars, then will a new day dawn in modern therapeutics, a day so bright that the mists of misunderstanding will melt completely and we shall see one another as we really are, not as prejudice has pictured one to the other.

## CAPTIOUS JOURNALISM.

The "North American Journal of Homœopathy" has been having quite a number of "seizures" of late because the Board of Trustees of the American Institute of Homœopathy refuses to get its thoughts from the same think-tank which supplies the "Journal"; particularly with reference to selecting the place of meeting for the 1915 Institute session.

The "Journal" had its first "fit" when in the October issue it devoted five editorial pages in a vain endeavor to show how much better able it was to select the place of meeting than were the Trustees, who were not only delegated with that power, but who had every possible source of information to guide them in such a selection. This was just a mild "fit" where the animal runs 'round in a ring, looks wild, makes considerable noise, but gets nowhere, then gives vent to a few spasmodic meows, and subsides.

In the December number, however, it has a real, "gen-u-ine fit" and no mistake. It chases itself around in a circle so rapidly one can scarce tell head from tail. There is nothing to be seen but just fuzz, fur, and foam. Then with an awful "meow" it rushes up the side of the wall, across the ceiling, and finally drops exhausted on the floor. Its pants are now so short one can almost see the waste (which has taken place). Fortunately, or unfortunately, it recovers from this attack of grand mal and gradually "comes to."

Just as we had begun to think we were going to have a quiet spell, the stillness is broken again by a plaintive little meow and the catty-clysm begins afresh in the February issue. There is the same circle chasing, the same flying of fuzzy fur, the getting to nowhere, and the same ludicrous subsidence. This fit is only two pages long.

Now, what is it all about? Simply an egotistical attempt on the part of the "Journal" to tell the members of the Board of Trustees how ignorant *they* are, and how all-wise *it* is, and how infinitely better for all concerned it would be if the entire membership of the American Institute would allow itself to be managed by the "North American Journal of Homœopathy."

All this, however, we might overlook and say nothing; but the "North American" went a little too far when in its December number it expends four editorial pages in an uncalled-for and unjust attack upon two of the most efficient and unselfish members of the Board who have ever served the Institute. The "Journal" goes so far as to assume that at the special meeting held in Chicago in October, it knew the minds of the Trustees better than they knew them themselves. For it says: The North American submits that it is up to Dr. Norton to publicly apologize to them (The

Trustees), and possibly *resign from the Board of Trustees where he surely must have made himself a persona non grata by his expression*"; (italics ours.) If the Trustees themselves felt that Dr. Norton should apologize to them, they are men of sufficient independence and mental calibre to ask him to do so and not leave it to an outside party to ask him.

Why should it assume to speak for the Trustees and say "he surely must have made himself a persona non grata"? Wouldn't it look a little more "lady-like" for the "Journal" to let the Trustees themselves state whether or not any member had made himself persona non grata?

After reading the pedantic editorial in the December number, one gets the impression that the "Journal's" opinion of its own erudition is such that it would rather listen to itself chew gum than hear Caruso sing.

Is it not almost time for the "North American" to get over the sulks, wash its face, look pleasant, and begin to "boost" instead of "knock"? Either it should do that, or take its little sawdust doll and go home.

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#### **"GET YOU READY, THERE IS A MEETING," ETC.**

Please take notice that Chicago is the place, and June 28th to July 3rd is the time, and the American Institute meeting is the occasion, upon which all good and true homœopathic physicians of the United States and its possessions should assemble themselves together for the joint purposes of renewing their several acquaintances, for making new friends, for taking on a new stock of medical lore, for working off on to others a little of what they may have a superabundance of, and last, but not least, for strengthening and upholding the cause for which they and their medical forefathers have fought and bled, lo, these hundred years.

To be plain and much more brief:

The American Institute of Homœopathy will meet as above designated. Please do not get it into your head that because the Institute is not going to meet in the extreme East or the extreme West, that this not going to be an extremely great meeting. It is going to be a worthy successor of the Atlantic City meeting of last year, which was then a top notcher. It is for you, Mr. Homœopath, to say whether you will make this meeting just another notch higher, or whether you will make it like Eve—"a side issue." Our big and successful meeting at Atlantic City gave us a great stride forward. It put more money into our treasury (thanks to the management of the Finance Committee), than we have ever had before. It gave the record of the largest attendance we have

ever had. It brought out more scientific papers than ever before presented.

Now we must keep the pace, or, still better, improve upon it. If you contemplate going to the Panama Exposition, you will, if living in the East, naturally pass through Chicago. Then by all means arrange to go at such time as to attend the Institute meeting.

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### SPECIALISTS AT REDUCED RATES.

There has come to our desk a card the first part of which reads:—

"The undersigned have established a private clinic for the diagnosis and treatment of the Ear, Nose and Throat diseases occurring among persons who are unable to pay the prevailing fees but who do not wish to attend public or charitable institutions."

It is signed by men of undoubted ethical standing in the profession. They propose to charge two dollars for each visit, fifteen dollars for removal of adenoids and tonsils, and other operations in proportion.

Here, it seems to us, is an excellent innovation. Those who hold dispensary appointments are familiar with the patient who says, "I can pay something and would prefer to, but my husband's salary is only twenty dollars a week, and we have four children and so cannot afford specialists' fees." We would venture the guess that the majority of the population of any of our large cities are in just this situation and we heartily approve any legitimate arrangement which permits them to obtain competent medical advice and care at a cost compatible both with their money and their self-respect.

A. H. R.

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### PSEUDO-INTESTINAL STASIS AND REAL INTESTINAL STASIS, DEMONSTRATED ROENTGENOLOGICALLY.

By ARTHUR F. HOLDING, M.D., of New York City, N. Y.

Attention is called to many anomalies of visceral position and progress of the bismuth meal that have been interpreted as pathologic, and which are really physiologic or anatomic anomalies and completely compatible with health, laying especially stress upon the fact that the ileum enters the cæcum normally at an angle, and unless associated with proximal distension, a diagnosis of Lane's kink is not justified.

He emphasized the point that delayed progress of the bismuth meal is not significant of obstruction unless it is more than six hours behind the normal schedule and associated with marked distension of the viscus proximal to the locus of obstruction. Proximal distension with obstruction to the bismuth column are the two cardinal diagnostic points of real intestinal stasis. Intestinal obstruction, due to tumors, is much easier to diagnose than intestinal stasis, because the defect in the bismuth shadow made by the tumor is more definite than that made by adhesions, veils, or membranes.

## OBITUARY.

## Joseph Tottenham Cook, M.D.

Dr. Joseph Tottenham Cook of Buffalo died on January 18.

Buffalo in particular and the medical profession in general is called upon to mourn the death of one who in any light in which he might be placed showed clearly the unmistakable lines of the honorable man, the unselfish citizen, the dependable friend, and the conscientious physician. No one who knew Dr. Cook could deny him any of these attributes; they were as much a part of him as his facial lineaments.

Dr. Cook was fifty-nine years old. He was the youngest son of the late Rev. Philos G. Cook, for many years pastor of the Wells Street Presbyterian Church of Buffalo, N.Y. He was born in Ludlowville, New York, but went to Buffalo with his parents early in life and spent most of his years there. He graduated from the Cleveland Homœopathic Medical College in 1881, taking post-graduate courses at the London Hospital and the Royal Imperial General Hospital in Vienna.

He was admitted to practice in Buffalo in 1882. Dr. Cook is survived by his wife, who was Mrs. Anna Poole Hoxsie; a stepdaughter, Miss Anna Maud Hoxsie; two sisters, Mrs. George B. Weston of Syracuse, and Mrs. John Davy of Buffalo.

It was my pleasure to know Dr. Cook very intimately. We were chums in medical school, and later became associates in practice. He not only bore acquaintance well, but his best qualities were known only through an intimate acquaintanceship. One little incident well illustrates the man. There was held in the medical school a competitive examination in anatomy for the appointment of Pro-sector. A number of us entered the contest, including Dr. Cook. It meant much to him to get the appointment. The results showed that he had received the highest marks. I went to his room to congratulate him, but found him in deep distress. He had gone over his papers which had been returned to him and found an incorrect answer which the examiner had overlooked. As the competition was very close, to mark off that mistake meant his losing the appointment. Should he keep still (as no one but himself knew of it), or should he report it and give way to the next man in line? Many men who called themselves honest might have kept still, but not Dr. Cook. He reported it and stepped aside for the next man in line. He retained this conscientiousness through life.

As one of his friends said of him:

"Dr. Cook was a man who took into the practice of his fine calling the highest professional standards. He had a very refined and delicate sense of his responsibilities as a physician. He venerated the old-time ethics and had little patience with anyone who assumed a flippant or frivolous attitude toward medicine. He thought the practice of medicine should command the serious respect of intelligent people and he sought in all his acts to deserve that respect.

"The memory of him will always recall to the minds of his patients a personality in whom were gently blended a certain sturdy stolidity with the graces and refinements of a polished gentleman."

D. G. W.

## Death of Dr. Edward Harper, New Orleans.

Just as we are going to press we have received notice of the death of our well known and able co-worker, Dr. Edward Harper of New Orleans. January 31st we received a letter from Dr. Harper in reply to one sent him a few days prior, wherein we asked him to write a special article for the *Gazette*. In his letter he says:

"I had expected to complete it during the month just ending and forward it to you, but instead have been fighting my gall bladder, or adhesions at the pyloric end or the stomach and duodenum, I am not just positive which. The surgeons here saw gall stones, but Dieffenbach proved to my satisfaction and his, while in New York last summer, with the X-ray that

there are adhesions, so it is possible there may be both. Be this as it may, I have been suffering intensely since about the 15th of December, as well as being very busy, so have felt in no mood for any effort at writing after my day's work was done.

"Friday night I was put right out of business, even morphia and atropin did not give me entire relief and I slept little all night. So far as I can see, dieting gives me no relief and I have taken treatment more or less regularly for the past three years all to no purpose.

"I am scheduled for the operating table for Thursday morning at 7.30 A.M. Say a little prayer for me and here's hoping,

"Sincerely yours,

(Signed) "EDWARD HARPER."

The "Times-Picayune" of New Orleans, February 10th, contains the brief notice: "Died, at Turo Infirmary, February 9, 1915, at 5 P.M., Dr. Edward Harper; aged 51 years; a native of Ohio. Interment private."

Thus has passed another man who has been a conspicuous figure in the ranks of the profession and an ardent supporter of Homœopathy in the South. Dr. Harper was Chairman of the Bureau of Homœopathy at the Atlantic City meeting of the Institute. The splendid generalship which he displayed as manager of that Bureau will not soon be forgotten by any of those who attended those sessions. We shall miss Dr. Harper most keenly in the many places which he has filled so acceptably. D. G. W.

## SOCIETIES.

### The Coming Meeting of the Massachusetts Homœopathic Medical Society.

The seventy-fifth anniversary of the Massachusetts Homœopathic Medical Society will be celebrated by a three-days' meeting to be held April 12, 13, and 14th. The session will consist of clinics, demonstrations and the reading of a few papers. The evenings will be devoted to social meetings, the first one probably being in the nature of a reception or get-together meeting. The second evening will be in charge of the Boston District of the Society. A committee under the chairmanship of Dr. D. W. Wells is now working on a program for that meeting. The annual dinner will be given on the third evening, with the annual oration delivered by Dr. John L. Coffin, this oration having been postponed from October of last year on account of the importance of this meeting. A detailed program will be sent to the members of the Society and all the other New England State societies, all of which have been invited to join in the celebration.

### Boston Homœopathic Medical Society.

The regular monthly meeting of the Boston District Homœopathic Medical Society was held at the Evans Memorial Building, Thursday evening, February 4, at 8 o'clock, Dr. Frederick W. Colburn, President, in the chair. There being little business before the Society, the evening was almost entirely given over to the scientific session, which was as follows:

"Diet in Relation to Cancer," by John P. Sutherland, M.D.

"Certain Phases of Mineral Metabolism," by Allan Winter Rowe, Ph.D.

Discussion of these subjects was opened by Drs. J. Arnold Rockwell, George E. Percy and J. Walter Schirmer, followed by a lively general discussion on diet, the meeting lasting until an unusually late hour, with the usual social half hour at the end.

The next meeting will be held in the same place on the evening of Thursday, March 4, at 8 P.M., and will be devoted to the consideration of gastropnoxis and enteropnoxis, their X-ray diagnosis, and their medical, orthopedic and general surgical treatment. Fuller details will be announced later.

Dr. Sutherland's address on Diet is to be published in a later issue of the *Gazette*.

H. E. DIEHL, M.D., *Secretary*.

## WAR LECTURES FOR BOSTON UNIVERSITY SCHOOL OF MEDICINE.

An interesting course of war lectures for the benefit of Boston University School of Medicine is being given on Tuesday evenings at Jacob Sleeper hall by W. R. Balch of the Boston Transcript. Tickets are seventy-five cents each lecture, and the course is as follows:

- March 2, "The War to Date."
- March 9, "The Business of War."
- March 16, "Military Operations."
- March 23, "The Better Side of War."
- March 30, "Sanitary Side of War."

## WESTBOROUGH STATE HOSPITAL NOTES.

The annual meeting of the Consulting Board of Westborough State Hospital was held at the Hospital on February 22, at which time Dr. Robert F. Souther of Boston was made secretary to succeed Dr. N. Emmons Paine, resigned.

Dr. Colby's report to the Board was read, and we give a brief abstract of it.

"Twenty years ago today the Consulting Board was organized in this room. It consisted of the ten newly appointed physicians, Drs. I. T. Talbot, Chas. L. Nichols, Conrad Wesselhoeft, E. P. Colby, N. Emmons Paine, Whittier, John H. Payne, H. P. Bellows, R. L. Thurston and Horace Packard.

"Dr. Talbot was the first chairman and Dr. Paine secretary. The interest which these men took in the Board and in the institution during the early days had much to do with the success which has been achieved.

"By death, resignation and lack of continuance the personnel has been much changed, and only three of the original members remain.

"During the past year there have been eighteen visitation days and over two hundred examinations and operations."

The personnel of this Board is now as follows:

*Chairman*, Edward P. Colby, M.D.

*Secretary*, Robert F. Souther, M.D.

Charles L. Nichols, M.D., Worcester.

John P. Rand, M.D., Worcester.

Fred'k B. Percy, M.D., Brookline.

George A. Suffa, M.D., Boston.

George B. Rice, M.D., Boston.

Howard P. Bellows, M.D., Boston.

John P. Sutherland, M.D., Boston.

Dr. N. Emmons Paine had previously resigned from the Consulting Board, but has since been appointed by the Governor to the Board of Trustees. The Governor has also appointed Dr. Walter F. Mahoney of Westborough and Sewall C. Brackett, lawyer, of Boston, as Trustees, succeeding George B. Dewson of Cohasset and John B. Merriam of Framingham, resigned. The Board suffers by the resignation of Miss Eliza C. Durfee of Fall River, who had for many years done faithful service as secretary. No successor has as yet been appointed.

Dr. Winfield Smith's death having left the position of Consulting Surgeon vacant, Dr. Robert F. Souther has been appointed by the Trustees to succeed him.

Dr. John L. Coffin's resignation from the Board of Trustees, of which he was chairman, is a matter of keen regret to the homœopathic profession at large. He rendered valuable service to the interests of the Hospital and gave a great deal of his time.

**SOME SIGNIFICANT CORRESPONDENCE.  
MASSACHUSETTS BOARD OF INSANITY.**

BOSTON, SEPT. 29, 1914.

GEO. A. BOUCHER, M.D., Brockton, Mass.

*Dear Doctor:*—I find that the city of Brockton has a low rate of insanity production, as indicated by institutional commitments in the years 1901-1910. I am writing to various persons, including each member of the Massachusetts Medical Society in the city of Brockton and neighboring cities and towns, to ask for opinions on the matter.

Would you care to state (confidentially, if you wish), any reasons for this low rate, such as economic and industrial conditions, heredity and stock of inhabitants, prevalence of syphilis and alcoholism, commitment customs of judges, commitment customs of physicians, attitude of inhabitants to institutions, amount of social service and welfare work, etc., etc.

I should be glad to receive any opinions, whether off-hand or more elaborate, in this so important matter; and thank you in advance for your courtesy.

Respectfully yours,

E. E. SOUTHARD, M.D.,

*Pathologist to the State Board of Insanity*

The following letter, together with the answer that has been made to it by one of our most prominent physicians, speak for themselves.

BROCKTON, MASS., OCT. 10, 1914.

E. E. SOUTHARD, M.D.,

Mass. State Board of Insanity, Boston, Mass.

*Dear Doctor:*—You want to know the cause of Brockton's low rate of insanity. Let me answer your question, in the good old Yankee way, by another question. What is the great *cause* of insanity, the one which above all things is either directly or indirectly responsible for most of it? *Alcoholism*. It must be, then, that Brockton has less insanity, because it has less alcoholism. And why has it less alcoholism? Because it has no saloons. After all, occasion is what makes most people drink; and the saloon, you know, is the *supreme occasion*. That's why we have hundreds and hundreds of citizens in this city who never think of drinking. But these same people, had we license, would probably never come up town without dropping into a saloon for a drink. Some of them would eventually become habitual drinkers, and add to our list of drunkards; and all of them, I am sure, would spend from at least 50 cents to a few dollars a week in that way. And it is, this money, which, with saloons, would go to the brewer and distiller, remains here in Brockton, and is used by these parties for the benefit of their families—to improve their home conditions. And that is why, by the way, that we have such a low infant mortality, and such a high percentage of High School students in Brockton; and that is why, also, we have less insanity. It is mostly due, as you see, to Brockton's No-License policy. May our people never forget it.

Yours truly,

GEO. A. BOUCHER, M.D.

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**HUMAN HEALTH AND THE FOOT-AND-MOUTH DISEASE.**

Office of Information, U. S. Dept. of Agriculture, Washington, D. C.

The anxiety that has been expressed in several quarters in regard to the effect upon human health of the present outbreak of the foot-and-mouth disease is regarded by Government authorities as somewhat exaggerated. The most common fear is that the milk supply might become contaminated, but in view of the precautions that the local authorities in the infected areas are very generally taking, there is comparatively little danger of this. Milk from infected farms is not permitted to be shipped at all. The only danger is, therefore, that before the disease has manifested itself some infected milk might reach the market. For this reason, experts in the U. S. Department of

Agriculture recommend pasteurization. As a matter of fact, however, pasteurization is recommended by the Department anyway for all milk that is not very high grade and from tuberculin tested cows.

It has been demonstrated by experiments which have been made in Denmark and Germany that pasteurization will serve as a safeguard against contagion from the foot-and-mouth disease just as readily as it does against typhoid fever, but in any event it must be thoroughly done—the milk must be heated to 145 degrees Fahrenheit and held at this temperature for 30 minutes.

In this country the foot-and-mouth disease has been so rare that there are few recorded cases of its transmission to human beings. In 1902 a few cases were reported in New England, and in 1908 in a few instances eruptions were found in the mouths of children which were believed to have been caused by contaminated milk. In both of these outbreaks the sale of milk was stopped as soon as the disease was found among the cattle. As long, therefore, as the disease can be confined by rigid quarantine to certain specified areas, the danger from this source is very small. Should the pestilence spread all over this country and become as general as it has been at various times in large areas in Europe, the problem would become more serious. Under any circumstances, however, pasteurization would be an efficient remedy. Where pasteurization is not possible, and where there is any reason to suspect that the disease may exist, the precaution of boiling milk might be advisable. Simple directions for pasteurizing milk at home, however, are contained in Circular 127 which will be sent free on application to the U. S. Department of Agriculture.

Cows affected with the malignant form of the disease lose practically all of their milk. In mild cases, however, the decrease may be from one-third to one-half of the usual yield. The appearance of the milk also changes. It becomes thinner, bluish, and poor in fat. When the udder is affected, the milk frequently contains coagulated fibrin and blood, so that a considerable sediment forms, while the cream is thin and of a dirty color. These changes, however, occur only when the disease is in an advanced stage and, as a matter of fact, the disease is not permitted to pass into an advanced stage, as any stricken animal is at once slaughtered.

Men who come in contact with diseased animals may also become infected. In adult human beings the contagion causes such symptoms as sore mouths, painful swallowing, fever, and occasional eruptions on the hands, finger tips, etc. While causing considerable discomfort, however, the disease is rarely serious. Where it is very prevalent among animals, some authorities believe that it is fairly general among human beings, but that the disturbances it causes are usually so slight that they are not brought to the attention of the family physician. There is, however, a very good reason for everyone giving the diseased animals as wide a berth as possible, namely, that otherwise they may easily carry the disease to perfectly healthy herds. Federal inspectors engaged in the work of eradicating the pestilence are thoroughly equipped with rubber coats, hats, boots and gloves, which may be completely disinfected; and others who lack this equipment are strongly urged not to allow their curiosity to induce them to become a menace to their own and their neighbors' property.

The disease, in short, is dangerous because of the loss that it occasions to property, and not because of its effects upon the health of mankind. At present all infected herds are being slaughtered as soon as they are discovered, the carcasses buried, and the premises thoroughly disinfected. Until all danger of infection has been removed in this way, the local authorities quarantine the milk.

Those who wish additional precautions are recommended to use pasteurized milk, but as has already been said, this recommendation holds true whether or not there is any fear of the foot-and-mouth disease.

## HEALTH CONSERVATION AT THE PANAMA-PACIFIC EXPOSITION.

Each of the great world's expositions of history has had its "uplift" side-show or its ethical or scientific phase. For example, at the Chicago World's Fair it was the World's Parliament of Religions; at the St. Louis Exposition great stress was laid on a World's Congress of Arts and Science. The Panama-Pacific International Exposition at San Francisco will go a long way further toward the heart—and stomach—of humanity to find its basic idea. That idea or key-note is Service—social, industrial, educational, hygienic, fraternal, economic.

The most pressing problems of today and of tomorrow, the problems of human welfare, furnish the basis not only of a large proportion of the 60,000 exhibits which already have been secured to fill the 65 acres of the eleven vast exhibit palaces, but of the laboratory and platform work of most of the extraordinary series of national and international congresses and conventions which will make San Francisco their headquarters in 1915. Fully 500 such great gatherings are expected to hold sessions there; and of these, 221 already have voted to be present. In some instances a single one of these world congresses will bring 10,000 to 40,000 delegates and members from 20 to 35 nations; and a total of over a million delegates—all people of thought and of ideals to swap—already is assured.

Health, physical, moral and mental health, is the topic which in greater or less degree will engage the attention of scores of these great gatherings and which will dominate acres of exhibits not only in the five-acre palace of Social Economy and Education, but throughout the exposition generally. In the great building devoted to Social Economy will be most of the exhibits made by the various foreign and state governments. These will be chiefly working displays and automatic wax and blown glass models, designed to popularize hygiene, physiology, sanitation, factory regulation and the like. These models, for the U. S. Government and for some of the largest business and philanthropic corporations in the country, will be created, on an elaborate scale never before attempted, by the celebrated Dr. Philip Rauer, and a corps of trained specialists who in April of this year came over from Stuttgart, Germany, at the invitation of the Rockefeller Foundation and of the Panama-Pacific Exposition, to take charge of such work. Rauer is the man who created the greatest series of models ever seen, called "Der Mensch" (The Human Being) for the Dresden Exposition, and which it is intended shall be shown at San Francisco. He will install a still greater lot of models for the United States health exhibit, on which a considerable part of the \$500,000 appropriation will be expended. This governmental exhibit probably will be shown in a special federal building to be erected by Uncle Sam at an additional cost of half a million dollars, the President having made such recommendation in April of this year. In the national display the cause and prevention of each of the more prevalent diseases will be visualized by means of models, relief maps and stereomograph pictures in combination with the phonograph and moving pictures.

The hygienic displays made by individual states will be so selected as to avoid duplication. Thirty-eight states and territories will participate. Dr. Rupert Blue, Surgeon General of the U. S. Bureau of Public Health, held a conference in Washington in June, with the members of all the state boards of health and with the principal municipal boards. At this conference details as to the character and scope of the hygienic exhibit of each state and city was threshed out, so that each will display its specialty, no two showing the same thing at the exposition. This insures an invaluable and varied series of exhibits of an educational nature. It is claimed that this is the first time in the history of expositions that the "no duplication" system has been adopted. It is not confined to any one department, but it is the watchword in all the great palaces of exhibits.

This greatest of world expositions commemorates the completion of the Panama canal, and this the greatest engineering feat of modern times was made possible only by the achievements of medical science; the foundation

of the whole project being the sanitation of the canal zone. This great work will be exploited with great thoroughness in various exhibits and by learned and scientific bodies. Col. G. W. Goethals will preside over the sessions of the International Engineering Congress which will meet at the exposition for a week in September, and he and his canal chiefs will make personal reports and addresses on every phase of the canal work, which afterwards will be published in eleven large volumes. About 25,000 civil, electrical, mechanical, sanitary and military engineers from over thirty nations have accepted the invitation to attend this congress. Among the laboratory exhibits will be a replica of the Panama canal, 500 feet in length, with miniature ships passing through it, and relief maps, charts, and wax models.

Cuba, which claims credit for doing the pioneer work in tropic city sanitation and in the eradication of yellow fever and plague, which made the later canal work possible, will come to the exposition with an elaborate hygienic exhibit which will occupy the most prominent place in the Palace of Social Economy, and will include model hospital equipment, a model of a fever mosquito as large as an ostrich and automatic models made by Rauer to show at a glance how to combat tropic diseases. Cuba's appropriation is a quarter of a million dollars. Argentina, with the enormous appropriation of three million pesos, will have a very modern welfare and health exhibit, and Japan, France, Germany, the Philippines and thirty other countries will be well represented.

In addition to the governmental and state exhibits, there will be unexampled health and human welfare displays assembled by such organizations as the American Steel Corporation, which expects to expend \$100,000 on its exhibits; the General Electric Company, which also will show its appliances for conserving the health of factory employees; the various insurance companies, the Rockefeller Foundation which will concentrate on the measures taken to eradicate the hookworm; and the Russell Sage Foundation, and Carnegie institutions and the Social Survey. All health and social economy displays made by commercial firms will be housed in the five-acre Mines building, along with an exhibit by the federal government covering work done for the health and safety of miners.

Another exhibit of importance to the medical and surgical world is the model emergency hospital which the exposition already has installed. It is in charge of Dr. R. N. Woodward, superintendent of the U. S. Marine Hospital in San Francisco, and will be maintained by the U. S. Department of Health, although most of the equipment—which represents the highest achievements in sanitary appliances—has been contributed by various manufacturers. As in all other exposition departments, practically all these displays are products of the past decade. This hospital exhibit includes model automobile ambulance, a sterilizing room, an X-ray room, a library, operating chairs, surgical instruments and equipment, a drug room and the like. It will be used as the exposition emergency hospital.

Included in the series of 221 international and national congresses and conventions of learned, scientific, industrial, ethical and other bodies which already have voted to hold their sessions at the Panama-Pacific International Exposition, are many conventions having to do directly with public health and hygiene. Among participants will be the American Academy of Medicine, the National Commission on Mental Hygiene, five organizations of eye, ear, nose and throat specialists, various societies for the elimination of Tuberculosis, Cancer and other diseases, the Panama-Pacific Dental Congress which will bring over 3,000 delegates with a clinic of 25 to 50 chairs, beginning September 9th; the American Red Cross Association, and the International Congress of Nurses, which will be represented by 6,000 nurses from fifteen countries. Affiliated with this nurses' congress, which last met in Cologne in July, are the American Nurses' Association with 22,000 members, the National League for Nurses' Education with 12,000 members and the National Organization of Public Health Nurses. This congress will bring an elaborate series of exhibits, including late hospital equipment, model wards, a Florence Nightingale exhibit and a model hospital mortuary as developed in Europe.

It is probable that the American Medical Association also will hold its 1915 sessions at the exposition, although definite action is yet to be taken. It will be at least represented in the Palace of Social Science by a valuable exhibit covering the work of the Association in educational and legislative work, particularly looking to the elimination of quacks and fake medical schools and adulterated and fake medicines and drugs.

The sessions of all these bodies will be held for the most part in the new permanent Auditorium which the Exposition is erecting at a cost of \$1,065,000, and which has a seating capacity of 10,000 in its main hall, with eleven subsidiary halls. The Festival Hall, with a seating capacity of 3,000, and the Greek Theatre at the University of California, seating 12,500, visible across the bay from the exposition grounds, also will be used for these vast congresses.

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## PROTEST AGAINST SALE OF FIREARMS TO WARRING NATIONS.

The following appeal has been received by the *Gazette* and we respond by publishing it.

We, the citizens of the United States of America, appeal in the name of justice and humanity, in the name of neutrality and future peace to the people, to the law makers, and the government of our country, to prevent the export from our shores of one single weapon, or of one pound of powder, to deal death in Europe. We recognize the fact, that the export is legally permissible through private firms, but nevertheless know, that our executive and our legislature can stop such export by a determined course of strict neutrality, a neutrality which is actuated by righteousness and sustained by public opinion.

The President of the United States has prevented the loan of money to France, and thereby our country has set its own precedent of what is just and right. This precedent binds us in legal opinion, as well as in the estimate of the world, to pursue in the greater matter, as in the lesser, a course of indubitable neutrality.

Never in the history of nations, have orders of such gigantic proportions been accepted by any country as those now being executed in America, for the continuance of the European war.

Do you know this fact?

Where are our peace societies?

Where are our women's organizations?

Where are our Churches?

No matter with whom we Americans, either individually, or as a nation sympathize politically, the statement up to the present time has been true, that we, as a nation, have been first and foremost in forwarding the peace-movements of the world. Are we willing to resign our prestige as a Peace-Maker?

International business relations between our country and Europe have been extended and cordial. We protest against their destruction for the benefit of a few! Are we, for the sake of present business profit, willing to draw upon ourselves an enduring heritage of hatred? Generations will not suffice to wipe away the stain we bring upon ourselves! Men are dying on ghastly battle-fields for their ideals. Cannot we work and suffer for our ideal of the integrity of America?

Guns, cannon, cartridges, dynamite, bombs are going from our manufactures not only to England, to France, and to Russia, but also to Japan. We are fortifying not only Europeans against each other, we are fortifying others against ourselves. Is this done with the consent of the entire American people?

In case of any future struggle forced upon our own land, picture clearly the possible destruction brought upon us, did any neutral country of Europe take the position of neutrality we assume today. Does the American nation desire to resign the future security of its own citizens?

We protest against this destruction of American integrity, of American business interests, of American security, as a consequence of this one-sided neutrality!

We protest not only in the interest of America, but above all, in the name of humanity, against a prolongation by our country of this hideous warfare.

America's unlimited supply of death dealing machinery, will cause an indefinite prolongation of this murder of mankind. When the war cloud lifts, our own land will be stained with the blood of our European brothers! Our actual military participation in this war, means Europe's last man!

We protest in the name of international relationship and honor; we protest in the name of suffering womankind; we protest in the name of helpless children; we protest in the name of all that lives and breathes against any participation by our country in this human carnage!

We believe that, as a nation, we are not willing to resign our legacy of righteousness received from the Pilgrim Fathers. We believe that, as a nation, we desire to retain our political prestige as an arbiter of peace. We believe that now, if ever, is the time for action! In this belief we send our protest and our appeal to every American who loves his country and desires the welfare of the world!

Signed by American Citizens resident in Europe, whose signatures are being sent to the State Department in Washington.

Please help the cause of peace and humanity by giving this protest to your friends to read. Gather as many signatures as you can and send same to (a) the President of the United States. (b) To your best local newspaper to publish.

**A BRITISH WAR POSTER.  
EFFECTS OF ALCOHOL.**

ON

**NAVAL AND MILITARY WORK.**

TO ALL MEN SERVING THE EMPIRE

It has been proved by the most careful  
SCIENTIFIC EXPERIMENTS  
and completely confirmed by actual experience in  
ATHLETICS AND WAR

as attested by

FIELD-MARSHAL LORD ROBERTS, V.C., K.G., K.P.

FIELD-MARSHAL LORD WOLSELEY, K.P., G.C.B.

and many other Army Leaders, that

**ALCOHOL OR DRINK**

- (1) Slows the power to see Signals
- (2) Confuses prompt judgment
- (3) Spoils accurate shooting
- (4) Hastens fatigue
- (5) Lessens resistance to Diseases and Exposure
- (6) Increases shock from wounds

We therefore most strongly urge you for your own Health and Efficiency that at least as long as the war lasts you should become  
**TOTAL ABSTAINERS**

(Signed).

THOMAS BARLOW, M.D., F.R.S., K.C.V.O. Pres. Coll. Phys.,  
Physician to H.M. the King.

FREDERICK TREVES, F.R.C.S., G.C.V.O., Hon. Col. R.A.M.C.,  
T. F., Sergeant-Surgeon to H.M. the King.

G. J. H. EVATT, M.D., C.B., Surgeon-General, R.A.M.C.

VICTOR HORSLEY, F.R.C.S., F.R.S., Captain R.A.M.C., T.F.

G. SIMS WOODHEAD, M.D., F.R.S., Lt.-Col. R.A.M.C., T.F.

**DOCTOR NOYONS AT LOUVAIN.**

*The British Medical Journal* states that Doctor Noyons, Professor of Physiology, at Louvain, has recently distinguished himself by his heroic conduct in remaining with his wife among the ruins of Louvain ministering to the wounded—Germans as well as Belgians. When the population of the city was informed that every inhabitant of the town must leave immediately, in order that the town might be razed to the ground by artillery, Doctor Noyons and his wife decided to remain in order to protect the 150 wounded who could not be removed in time. *The British Medical Journal* also calls attention to the fact that Louvain was in old times, as it is still, chiefly celebrated as a school of theology, but for anatomists it is associated with the great name of Andreas Vesalius. The reformer of anatomy was a student in the *podagogium castri* and also in the *Collegium Buslidianum*, where he gained that knowledge of the ancient tongues which was to prove of such service to him in the scientific controversies of his later life. It was when he was at Louvain that Vesalius secured a human skeleton by climbing the gallows outside the town. He had to convey the bones home secretly, reentering the town by a different gate from that by which he had gone out, and articulating his stolen treasures in his rooms. He was afterwards spared the work of "resurrection" by the liberality of the burgomaster, who placed abundance of material for dissection and demonstration at his disposal. In 1536 or 1537 he dissected and lectured publicly. He seems, however, not to have been altogether comfortable in the theological atmosphere at Louvain, and some remarks which he made on the seat of the soul excited the suspicions of the heresy hunters.—*Cleveland Medical Journal*, December, 1914.

**PERSONAL AND GENERAL ITEMS.**

The State of Massachusetts has raised the age limit for appointees as district health officers from thirty-two to thirty-six years.

Dr. Sanford B. Hooker, B.U.S.M. 1913, is doing post-graduate work in complement and fixation in the Research Laboratory of the New York Department of Health, located in Bellevue Hospital, New York City. He expects to take up research in other phases of immunological experimentation and will probably remain in New York for some weeks.

The offices in Buffalo of the late Dr. Joseph T. Cook, who died on January 18, have been taken by Dr. Charles P. Lape of that city.

Dr. Cora M. Johnson, class of '83 B.U.S.M., has returned to Skowhegan, Maine, from her service at Fergus Falls (Minnesota) State Hospital for the Insane.

Dr. Frank L. Jones (B.U.S.M. 1914) has opened an office at 59 Ashland St., Roslindale, but still retains his internship at Emerson Hospital, Jamaica Plain.

WANTED.—A woman physician is wanted as superintendent of a surgical hospital of thirty-five beds, to give anæsthesia and do some pathological work; one having had hospital experience preferred. Address "M.E.P.," 305 Washington Ave., Brooklyn, N.Y.

PRACTICE FOR SALE.—Within ten miles of Boston, a \$7000 practice for sale. Fine location in residential town. A great opportunity for the right man. Apply to "Business Manager," *New England Medical Gazette*, 80 East Concord St., Boston.

Dr. Harriet J. Lawrence, class of 1912 B.U.S.M., and Dr. Edith MacDowell opened a pathological laboratory on January 1st at 606 Morgan Building, Portland, Oregon.

FOR SALE.—A well-equipped office in a good, live little business city of five thousand (5,000) inhabitants (no other homœopath). Large stock of remedies of all kinds, most of them fresh. Good medical library, instruments and other medical supplies (no fancy stuff). Will sell reasonable. Wish to sell on account of failing health. Write for particulars; or address J.R.H., 1139 Downing Street, Denver, Colorado.

Dr. Harold E. Diehl, class of 1911 B.U.S.M., has been appointed secretary of the Board of Health of Quincy, Massachusetts.

Dr. Alice E. Rowe Schley, of Buffalo, class of 1893 B.U.S.M., has been appointed by Governor Whitman of New York to the Board of Managers of Gowanda State Hospital to serve for a term of three years. Dr. Rowe-Schley succeeds Mrs. Mary B. Shepard, also of Buffalo.

Dr. Esther K. Solakian, B.U.S.M. 1904, who for the greater part of the time since her graduation has been doing hospital work in the large cities of Europe, has returned to this country and is at present in Springfield, Massachusetts.

Dr. Edna B. Averill, class of 1910 B.U.S.M., has removed from 693 Massachusetts Avenue to 130 West Concord St., Boston.

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## ORIGINAL COMMUNICATIONS.

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### AN ANATOMICAL CONSIDERATION OF MASTOIDITIS.\*

By GILBERT J. PALEN, A.B., M.D., F.A.C.S., Philadelphia, Pa.

A knowledge of the anatomy of the mastoid portion of the temporal bone and its important anatomical relations, is most essential for a thorough understanding of diseased conditions of this structure. Not only will such a knowledge help us in our understanding of its diseased conditions but it will also bring forcibly to us the danger which may be imminent, in certain cases of mastoiditis, by waiting too long before operating.

If we examine a temporal bone we find that the mastoid portion has relations with both the middle and posterior cerebral fossæ; that in the posterior fossa it is in intimate relation with the sigmoid sinus; that its anterior surface forms the posterior upper wall of the external auditory canal; that the inner surface of the mastoid tip rests against the posterior belly of the digastric muscle; that its lower outer third is roughened for the attachments of the sterno mastoid and splenius capitis muscles; that above the attachment of these muscles the process is smooth and in the natural state is covered only by periosteum and integument.

If now a section is made through the mastoid portion, so as to cut it postero-anteriorly and if this is extended forward to include the middle ear and Eustachian tube, we then find that the mastoid portion consists of an outer and an inner plate, between which are contents the character of which will vary in different specimens. In studying a series of such sections, one is impressed with the fact that these two plates vary considerably in their distance from each other and it is apparent that this variance is due to the character of the contents. In the larger number of specimens the plates are quite apart and it is found that this is due to the presence of a number of bony cells, of varying shape and size, between the

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\* Read before the South Philadelphia Homœopathic Medical Society, December, 1914.

two plates these often extending into the zygoma. In a smaller percentage of specimens these cells are lacking, there being simply diploe present or the contents may be sclerotic in nature and in these the outer and inner plates lie closer to each other.

In every specimen examined, no matter what its anatomical structure, there is found, in the upper anterior portion, one large cell which is called the mastoid antrum and this communicates, as can be seen in our sections, with the middle ear cavity, through a short passage, the additus ad antrum. It will also be seen that the mastoid antrum is in close relation anteriorly to the upper posterior wall of the external auditory canal; that posteriorly it has a relation to the posterior cerebral fossa and the lateral sinus and that above it is the middle cerebral fossa.

If now we study the sections as to the thickness and density of the plates we find again a wide variation. In the majority, the outer plate is the less dense; in others the inner plate; in others the roof of the antrum.

Involvement of the mastoid process is almost always secondary to an acute or chronic suppurative middle ear condition by extension backward to the mastoid antrum, from the middle ear cavity, through the additus ad antrum. The antrum is then the first portion involved, subsequent infection spreading from this cell as a center. Such infection will follow the course of least resistance. If purely inflammatory in character, it follows the mucous lining of the mastoid cells until subsequently the entire mucous surface is involved. With the further infection suppuration begins, pus collects within the areas involved, and tension results, this hastening necrosis. Eventually there are, within the mastoid capsule, one or more cavities filled with pus and inflammatory products and tension is then exerted upon the plates of the process. This continued, causes rupture at the point of least resistance and so there occurs, eventually, a fistula, the pus finding an outlet somewhere outside the process.

The extent of the condition within the mastoid process will depend upon the character of the contents. If cellular, the condition will be extensive; if diploeic or sclerotic it will then be limited to the antrum.

Reaching the point where tension is exerted upon the plates, subsequent symptoms or complications will depend upon the direction the pus takes and this will be governed largely by the anatomical structure of the given case.

Let us consider then the symptoms and signs from the beginning of the average case. As stated, a mastoiditis occurs subsequent to a middle ear involvement. As the infection starts in the antrum, our first sign is often in this region. The inflammation causes a periostitis in the neighborhood of the antrum, there results a sagging

or sinking of the posterior canal wall close to the drum and tenderness is noted above the antrum. The condition spreading, the mastoid process becomes more and more sensitive.

If now we have a cellular mastoid, the entire process becomes rapidly tender, or it may be so in spots in a case where there are few cells, or at the tip where there are tip cells.

As the inflammation becomes more intense and the outer plate is encroached upon, the periosteum becomes involved and there results œdema over the mastoid. Eventually, unless the condition is stopped, the pus finds an outlet through the upper outer surface, above the muscle insertions, and there results fluctuation over the mastoid. Thus, in the course of the average case, we find sagging of the posterior upper canal wall, tenderness over the antrum or mastoid and post auricular œdema with fluctuation, the œdema producing prominence of the auricle.

The pus may, however, break through the lower outer surface of the mastoid tip, in which case it lies below the tendons of the sterno mastoid and splenius capitis muscles; or it may break through the inner surface of the tip, where it comes in contact with the posterior belly of the digastric muscle and may either go anteriorly, in which case a brawny swelling appears in the retro maxillary fossa; or it may go posteriorly, in which case the brawny swelling appears just posterior to the tip. In all such cases there is no fluctuation, for the pus lies deep below the neck muscles. This type is known as Bezold's mastoiditis.

Thus far we have seen that the pus may break through the outer plate of the mastoid above the insertion of the tip muscles; or below the insertion of these muscles; or through the inner surface of the tip into the digastric fossa. These last two types give a brawny swelling in the neck, with loss of outline of the mastoid tip. The pus may also burrow through the roof of the antrum, coming then into the middle fossa; or it may go through the inner plate, in the posterior part of the antrum, finding its outlet, in this case, into the posterior fossa. In the former case we may have extra dural abscess, sub dural abscess, cerebral abscess or meningitis. In the latter case sinus phlebitis or thrombosis, extra dural, sub dural, cerebellar abscess or meningitis.

Lastly, the internal ear may be attacked through erosion of the horizontal semi-circular canal, with resultant circumscribed or diffuse suppurative labyrinthitis. In this case the pus may follow the internal auditory canal, reach the posterior fossa and cause meningitis.

We thus see that the mastoid process varies in size according to its contents; that the walls vary in thickness and density; that it has important relations with the cranial cavity, the lateral sinus and the internal ear; that the pus may take a course in a variety

of directions, depending upon the resistance of the plates of the mastoid.

We have as yet no method by which we can determine with any degree of accuracy, in any case of mastoiditis, the exact anatomical structure of the mastoid. True it is, that by transillumination and by radiography, we can determine pus within the mastoid and we can outline this with a fair degree of accuracy, but we cannot determine the relative resistant power of the outer and inner plates and so cannot be certain that the pus will not take a course toward vital structures.

We have, however through long experience accurately determined, in cases where no serious complications already are present, that a skillfully performed mastoid operation will safely remove the condition.

If these last statements are so then when, despite careful treatment, mastoid symptoms persist in any case, are we guaranteed in allowing our patient to drift from day to day hoping for resolution, when we have no way of knowing in which direction the pus will burrow? Should we not rather advise a mastoid operation as the conservative treatment?

2102 Chestnut Street.

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## DRUG PICTURES.

By JOHN H. CLARKE, M.D., London, England.

### THE ARGENTUMS. \*

#### ARGENTUM METALLICUM (ARG.)

*Clinical.*—Duodenum, ulcer of. Intestinals and Œsophagus, stricture of. Ophthalmia. Stomach, ulcer of. Worms.

*Characteristics.*—Hahnemann published in 1813, in the fourth volume of his *Materia Medica Pura*, the first proving made by himself and his class with *Argentum foliatum*, leaf-silver, triturated, containing 40 of his own symptoms, the rest being those of W. Gross, C. Franz, F. Meyer, E. W. Wislicenus, C. F. Langhammer, and E. F. Hermann. He had previously collected a few symptoms of *Argentum nit.* but he preferred to prove the elements uncombined. In 1825, in the second edition of *Materia Medica Pura*, other symptoms were added, notably a proving by F. A. Haynel. "In 1846 appeared the masterly proving of W. Huber, made with the trituration of the *precipitated metal*" (Hg.) A record of this

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\* The subjoined articles on *Argent. Metal.* and *Argent. Nit.* though complete in themselves, are also supplementary to the articles in my *Dictionary of Practical Materia Medica* and will gain in interest by being studied along with them. The article on *Argentum Muriaticum* is entirely new, and the clinical experience I give is the only example of it that I am aware of in our literature.

proving in day-book form can be found in the *Cyclopædia of Drug Pathogenesy*. As it has furnished many of the most striking and most frequently confirmed symptoms of the remedy the precipitated metal should be used in preference to attentuations. The symptoms were very clean-cut, and were more exactly localized anatomically than can be done by non-professional provers. Particular bones, cartilages, joints and tissues are singled out. Sternum xiphoid cartilage, ribs, rib-cartilages, shoulders, elbows, hip-joint, knee-joint, patella, ankle-joint and its cartilages, cranial bones, long bones and their processes, single vertabræ, pelvic bone and brim of pelvis, great trochanter,—all are seats of particular symptoms. In muscles there are twitchings, cramps and paralysis. It was on Huber's symptoms that Sharp made his cure of coxalgia in a young woman, and another one of painful knee.—Among the *peculiar sensations* and symptoms of *Argentum* are sensation as if smoke were in brain. Hollow feeling in head. Something foreign in occiput. Contraction in brain. Eyes feel compressed with headache. Feeling as if the enamel of teeth were covered with sticky cement. *Nausea in throat*. Sandy stool. As if a rough body adherent on velum palati. As if the small of the back had been knocked away. Clucking sensation in knee. Sensation as if foot had become detached and cartilage did not touch on walking. This symptom with "pithy sensation in heel on stepping" suggest the likeness to Charcot's disease. Oily sweat on chest.—Among the many paralytic symptoms is one like the "drop wrist" of *Plumbum*. There are many stitches and fine cutting pains in the pathogenesis. A vertical stitch downwards through the eyes. Stitches from ear to brain. Thick eyelids and thick margins of eyelids suggest scrofula. *Argentum* has cured ophthalmia neonatorum as well as *Arg. nit.* Hoyne ("*Clinical Therapeutics*") quotes this case. Infant 4 weeks old, attacked when 3 days old. Pus abundant, oozing in jets as from freshly opened abscess. Spasm so great, balls could not be examined. *Lids alarmingly swollen and thickened*. Sulphur and Calc. proving useless *Arg.* 200 was given every 4 hours. In 24 hours there was slight improvement. After this, *Argentum* 200 was given to the mother only, at increasing intervals. The cure was rapid and complete.

*Argentum* has a sensation like the "fish-bone in the throat" of *Argentum nit.* "as if a rough body adhered to velum palati." Also as if the throat were closed by a stopper. With the cough "grey viscid mucus is easily expectorated. There are grey ragged ulcers in throat and on prepuce." Burning in stomach ascends to chest. There is gnawing hunger unappeased by eating. Desire for wine.

The provers of *Argentum* were all males, but analogy and the abdominal symptoms of the provers have led to extensive use of *Argentum* in uterine and ovarian troubles. *Argentum* affects the

ovaries no less than the testes, especially the left. Oppressed burning in region of heart. Pains alternate or disappear in the feet and appear elsewhere.—Mental agitation=headache and indigestion. Headaches are worse lying down; better in open air; worse from pressure or touch. Slight pressure=sore pain. Yawning=pain in fauces. Coughing=pain in fauces. Laughing=cough. Sneezing=pain in l. hip-joint. Uncovering=chill. Pain in abdomen is worse on beginning to eat; worse on inspiration; better rising from a seat. Distention and rumbling are worse at night. After morning stool, pinching bellyache. During stool vomits twice. Worse lying on back; worse raising arm; worse at noon; afternoon; after sleep; during afternoon nap. Worse morning on waking; better after rising. Many symptoms come on when at rest. Looking at running water=dizziness.

I may mention two cases illustrating the action of *Argentum* in diabetes and its relation to *Arsenicum* and *Ur. nit.*

(1) Mr. S., 63, had fistula in ano and glycosuria, and tried to be treated concurrently. For a time the sugar was well controlled by *Ur. nit.* 6x, but after some weeks it failed. *Argentum* 30 then succeeded well. After some months there was a return of sugar, then *Syzygium* 1x acted well for five months, when it failed. *Argentum* 5gtt. x in a wineglass of water, thrice daily a quarter of an hour before meals, had then a marked and lasting effect. In three days after commencing it the sugar dropped. The fistula healed completely, the most important remedies being *bacillinum* 30, *bacillinum testium* 30, *Calc. phos.* 3x and *Calc. fluor.* 3x.

(2) Mrs. M., 52, consulted me in December, 1913, for failure of sight. I referred her to a specialist, who reported "well marked retinitis proliferans in both eyes, which is not likely to improve; retina already detached over one or two small areas in each eye as a consequence of the pulling of the vitreous fibrous tissue on it." The urine showed a very heavy percentage of sugar. There was an old history of alcoholism. The patient is a woman, childless, her husband having died of general paralysis. The condition was so serious that Mrs. M. was taken into a nursing home and remained there several weeks, until her general condition so far improved as to permit her returning to her home in the country. In addition to the ocular symptoms there was much neuralgia, with general pains of a rheumatic nature. The chief remedies were *Arg. mur.* 5 and *Arg. nit.* 5. After the last, she complained that "the sight grew misty after each dose." At this time, when she visited me from the country, a hint given me by her maid that there was a quite unreasonable degree of mental irritability, made me think of *Arsenicum*, which in its general characteristics has many of the pictures of diabetes; and *Arsenicum* 30 made a rapid and marked improvement, and the patient remarked "the medicine did

not affect the eyes painfully this time"; on the contrary, there was marked improvement in the comfort of the eyes and also the vision. The irritability was much less. For many weeks Arsenicum controlled the case; then it failed. There was flatulent indigestion, increase of sugar, and a sudden loss of vision (from hemorrhage into retina) which slowly cleared. Uran. nit. 5x now came in with excellent effect. The percentage of sugar fell to an insignificant amount, and the general well being of the patient immensely improved.

From these two cases I conclude that the Argentums are followed well by Arsenicum and Syzygium, that they follow Uranium nit. well, and that the latter follows Arsenicum well. The concomitant of "swelling of the ankles" with glycosuria is a strong indication for Argentum, but I do not find it by any means a *sine qua non*.

*Relations*.—Antidoted by Merc., Nux, Puls., Aur., Stan., Zn., (Hoyne). *Compare*: Surface sensitiveness, Chel., K. iod. Affections of l. ovary, Lach., Lil. t., Thu. Heat in heart, Croc., Lachn., Op., Rho. Thirstlessness, Pul. Tendons feel too short, pains in hip-joint, Am. c., Am. m., Cimex. Worse after sleep, Lach., Na. m., Sul. Worse afternoon, Lyc. Drop wrist, Pb. Pains fly to different parts; pain in heels, Val. Corns, Rd. bro. Pains in elbows, Xan. Sprained pains; worse rest, Rhs. Pains increase and suddenly cease; (pains slowly increase and slowly subside Stn.)

*Causation*.—Mental agitation.

### SYMPTOMS.

1. *Mind*.—All the time in a kind of intoxication.—*Increased cheerfulness and disposition to talk all day* (curative secondary action).—Without anxiety, again and again the idea comes as if he might have an apoplectic stroke and could not finish the proving; with spasmodic contraction of heart.—Cannot occupy his mind regularly, as the mind reproduces former exciting events; all afternoon.—Long forgotten old songs come into his mind.—Anxious about her health; full of care.—Mental agitation induces headache and indigestion.—Weak and depressed morning on waking.

2. *Head*.—Cloudy as if benumbed.—Vertigo: *on entering a room after a walk*; when reading; when sitting; when reflecting; *sudden as if a mist before the eyes*; cannot think rightly; before midnight, whilst slumbering in bed, it seemed as if the head was falling out of bed, followed by a violent convulsive starting of body.—*Giddy when looking at running water*.—*Crawling and whirling in head as if drunken*.—As if stupid and hollow in the head, the whole brain is painful, with chilliness.—*Frontal headache of business men*.—*Shooting burning pain in the head*.—In morning, shooting headache with redness of one eye.—When standing and reading, sudden burning sensation in scrobiculus cordis, a sensation of dull contraction in

the brain from all sides, and like a threatening of vertigo with sick nausea in region of sternum; at same time a sudden heat all over, esp. face, and momentary perspiration on face and chest.—Pressure and drawing above right ear towards the back.—In left temple horrible aching and tearing.—Tearing as if in bone of left temple and above mastoid process.—Drawing from occipital bone to middle of frontal bone in curve over right temporal bone externally.—*Aching tearing in left and right temporal bones, worse by touch.*—Squeezing pressure in right temple with intermittent sharp stitches inwards.—Cutting stitches as if in the bone or on surface of brain just in front of left ear going forwards.—Aching pain externally in temporal bones; both parietal bones; left parietal bone.—Slight pressure on head=sore pain.—*Aching pain* with stupefaction in forehead and drawing *aching in occiput.*—Dull, pressive, persistent headache encircles the skull like a wreath.—Intermittent, boring pain l. forehead whole day; worse evening after lying down.—Drawing, pressing and tearing pains in right frontal eminence, also left.—Pressive tearing under left frontal eminence; globe of eye feeling at same time compressed.—In right temporal muscles, right frontal muscles, lateral cervical muscles near thyroid cartilage, and posteriorly towards nape, a spasmodic jumping of the muscles that pushed awry the head, with twitching pain.—Dull, throbbing headache deep in right half of brain.—Slight rippling shudders over right side of hairy scalp.—Nape feels stiff, and there is a strange feeling in the occiput; a kind of drawing and aching therein.

3. *Eyes.*—(*The borders of the upper and lower eyelids are very red and swelled; but the eyes do not suppurate.*)—*Violent itching of canthi.*—Violent vertical stitch through skin and cartilage of left upper lid.—Sticking and stitches in canthi.—*Sight very weak.*—Sight vanishes.—(*Ophthalmia neonatorum.*)—(*Ophthalmia after measles first left then right shooting, itching, aching pains.*)

4. *Ears.*—Cutting stitches from interior left ear, extending into brain.—Gnawing itching on lobes of both ears, morning after rising.—Increased warmth of concha (l.) and itching which provokes scratching.—Repeated violent stitches in fossa behind right lobule, penetrating into head.—Drawing behind lobule of left ear.—Buzzing in ears.

5. *Nose.*—*Excessive fluent coryza, with frequent sneezing.*—*Severe fluent coryza without sneezing.*—Throbbing in left nostril (fore part), tension in external skin of nose, as though the nasal bones were compressed, with twitching and pricking in left nostril that occasioned several violent sneezings.—Tingling and itching in the nose, followed by bleeding.

6. *Face.*—Fine drawing pain in facial muscles especially on malar bone.—Fine painful stitches on right malar bone.—From depression under lobe of right ear to skin of cheek, drawing pain

that extends to lower jaw as if it were in the periosteum.—On chewing, cutting sensation as if he had taken some acrid acid, in eustachian tube to parotid gland.—*Perceptible throbbing over whole left cheek as though the muscles would be raised from the mucous membrane, with a feeling as though the left cheek were larger, with a slight chilly burning in the skin and redness of both cheeks; lasts 6 to 8 minutes.*—Cutting stitches inwards under right lower jaw, as if in a gland.—On outside of neck (left) aching while walking in open air.—Neck in neighborhood of submaxillary glands swollen, with stiffness and great difficulty in swallowing.

7. *Teeth.*—The lower row of teeth sticks to the upper as though the enamel were covered with a sticky cement.—Gums painful *per se*, worse when touched.—A sensitive aching in last hollow lower left molars.—An incisor tooth painful being pressed forward.

8. *Mouth.*—Burning on tip of tongue as though he had chewed some aromatic substance.—Dryness of middle tongue and hard palate.—Much flow of saliva during afternoon nap, causing spitting; with so much dryness of mouth that the tongue stuck to the palate.—Fetid breath.—Viscid saliva in the mouth makes speaking difficult.

9. *Throat.*—*Neck in neighborhood of submaxillary glands swollen, and in consequence stiff and tense when moving; at same time swallowing is rendered difficult by internal swelling of the throat, and he must force every mouthful with an effort through the gullet.*—On *velum palati* a scraping sensation as if a rough body were adherent there, not exactly painful but disagreeable, worse empty swallowing than swallowing food, but constantly felt and compelling him to swallow his saliva; in a few hours the sensation goes deeper down in the fauces.—Tension in fauces (r.) only when yawning.—Violent pulsation in carotids especially left side.—Itching, crawling in pharyngeal orifice and Eustachian tube extending to tympanum.—Feeling of *nausea in the throat*, followed immediately by heat all over, especially head, with red face, without thirst.

10. *Appetite.*—Hunger, with nausea; during afternoon nap.—During and after meals, sweating; skin near sacrum feels cold.—After dinner, nose-bleed; dry stool.

11. *Stomach.*—Anxiety and pressure in pit of stomach.—When standing or reading suddenly felt burning sensation in pit of stomach; dull compression of brain from all sides, and an approaching vertigo, with nausea and inclination to vomit, in region of sternum as after turning round quickly in a circle; at same time heat and momentary sweat.

12. *Abdomen.*—At night an aching, painful distention in abdomen, which went off without discharge of flatulence.—Rumbling in abdomen at night and discharge of flatus.—*Loud noises in abdomen, l. side, like croaking of young frogs; with hunger.*—After

the morning stool, contractive bellyache, as from chill, when sitting.—In abdominal muscles near the last two ribs, sharp stitches from within out, which end in fine pinching, somewhat better by rubbing.—Boring pain in right hypogastrium, just above groin.—Shooting cutting in both sides in region of inguinal ring.—In bend of left groin sensation of straining of the tendon (of psoas muscle) which pains as if bruised when pressed on.—Pressing in hypogastrium during stool (which is moderately soft) and also thereafter.—Tympanitic puffing right side abdomen.—*Bruised pain in the flank over left hip and on whole l. side of pelvis; (with extreme weakness).*—Burning in abdomen and stomach and as far as chest.—Sprained pain on posterior surface, **outer rim**, left side **pelvis**, at insertion of gluteus maximus, worse every step, afternoons, after a long walk.—Drawing, stinging pain right side feeling towards back part, during rest.—A momentary violent stitch from before backward in hypogastrium.—Painful thigh, transient tension in left iliac region, along course of fava muscle, when walking and at rest.—Drawing tensive pain in right inguinal region, along psoas muscle, better by rest.—Tension and drawing in groin behind abdominal ring, extending to l. thigh.—*Sweat only on abdomen and on chest.*—Sweat on abdomen.

13. *Stool and Anus.*—Frequent (never ineffectual) urging to stool in lower part of rectum, and evacuations of scanty soft stool.—Stools irregular, often lienteric diarrhoea.—Diarrhoea with constant pain l. side stomach.—Sensation in rectum as though a living worm were boring through anus and by its windings rubbed around the rectum, lasted ten minutes; returned while sitting and standing after a meal.—Feeling as if many small threadworms boring out of anus which on stooping caused an itching but no need to scratch.—Feeling in anus as if long bubbles are escaping.—Some itching in anus and along the fossa between nates causing scratching, at 8 p.m. while walking; lasts 8 m.—Sore between nates, round anus and in groin on moderate walking.—More force than usual required to evacuate bowels.—Effort to finish a stool or micturition = pain back part of pelvis (worse l.).

14. *Urinary Organs.*—Slight burning when urinating, as though urine were acrid (though it was normal).—Very frequent micturition.—*Frequent urging and copious flow for several hours.*—Five or six pints of urine in one night.—Urine turbid, sweetish, profuse at night.—Diabetes with oedema of feet and ankles.—Albuminuria.—Enuresis nocturna, spasmodic.

15. *Male Sexual Organs.*—Almost every night an emission.—Emissions without lascivious dreams.—Bruised pain in left testicle.—Gonorrhoea; profuse; yellowish green; with bruised pain in testicle.—Greyish ulcers with shaggy edges on prepuce and same time on throat.—*Crushed pain in right testicle.*—Crushed pain in

testicles; worse *contact of clothes on walking; also evenings in bed.*—Scrotum and feet oedematous (diabetes).—Pruritus of scrotum.—A painful transient drawing through right inguinal ring down to testicles, at 4 p.m. during rest, with a pasty stool.—Repeated tearing along spermatic cord, 4 p.m. during rest after a short walk.—Repeated grabbing; pain deep in substance of right testicle, when at rest, with a certain fear and anxiety.—Sexual desire somewhat diminished.

16. *Female Sexual Organs.*—Prolapsus with pain in l. ovary.—*Pain in left ovary and back, extending to front and downwards.*—*Pain in left ovary and loin.*—Purulent, ichorous, somewhat bloody matter flows from the uterine ulcers, unbearably offensive (scirrhus).—Cervix spongy, deeply corroded; face straw-coloured; bruised tense feeling in groin; urine copious; cramp in thighs.—Metrorrhagia, large lumps with violent pains, worse every motion.—Hæmorrhages at approach of climacteric.—Uterine diseases with sore feeling as if ulcerated in whole abdomen, worse riding in a carriage.—(Removed foul smell in case of scirrhus of os uteri in three days).—Palpitation during pregnancy.

17. *Respiratory Organs.*—*Raw and sore pain superiorly in larynx, when coughing, not when swallowing.*—By day (not at night and not in open air) several attacks of short rattling cough, with white, thick, easily detached expectoration, like boiled starch, but opaque, without taste or smell.—By laughing, mucus is produced in trachea, and cough excited.—*On stooping mucus comes into windpipe which is expectorated by a single impulse of cough.*—The morning after rising from bed an irritating tussiculation without expectoration.—When eating fruit it seemed to him repeatedly as if a little piece stuck in the larynx, leaving a spot which feels cool, irritates to cough, which does not lessen the sensation.—Hoarseness and loss of voice; especially with professional singers and speakers.—Cannot speak a loud word, constant tickling in throat provoking cough.—In evening hoarse, worse *speaking, reading aloud*; has to heave and hawk.—In the throat (larynx), a remarkable shattering crack or crash, with almost a metallic reverberation.—*A dull cutting, which became a stitch in the trachea from below upward, occasioning two or three fits of cough*; it continues even after the cough; the cough produces a kind of watery expectoration, which, however, does not relieve the irritation to cough.—*Raw spot in trachea, region of suprasternal fossa, worse speaking, talking, or singing.*—Pain in cricoid cartilage, caused by a draught of air, with a feeling of a stopper in the throat, and on pressing on it a bruised pain.

18. *Chest.*—In right side chest from within outwards such a violent stitch, lasting about a minute, that he can neither inspire nor expire (when sitting).—Fine stitches in interior of upper part of

sternum from within outwards.—Sharp stitches right side near nipple.—Under right nipple, a shooting, not connected with inspiration or expiration.—Tearing under right nipple.—Gnawing scraping in left side chest when at rest.—Cramp on left side of chest; when it is gone the part still pains when touched.—Pressure and oppression in left side chest above heart.—A shooting squeezing pain on left side sternum, worse sitting bent forward (unaffected by breathing).—Aching shooting in right side chest and sternum, only slightly worse deep inspiration.—On inspiring deeply an out-pressing pain in a spot size of florin under second and third ribs.—On right side chest a spot with aching pain, as if something hard was pressed against the ribs.—Violent aching in middle of sternum, internally, very much worse by every movement, especially stooping forwards and then rising up.—Aching pain on sternum externally.—Needle pricks under ensiform cartilage of sternum.—Sharp stitches on right near manubrium sterni.—On same ribs spasmodic aching tensive pain.—Sharp stitches between sixth and seventh true ribs, right worse, inspiring deeply.—Under the last left ribs a cutting stitch transversely across, on leaning over to the side and on supporting himself with his arm.—Obtuse stitches under last false ribs, (1.).—Obtuse stitches under third true rib, 1., equally felt inspiring and expiring.—Slowly intermittent obtuse stitches under cartilages of last true rib on left above scrobiculus cordis (in evening in bed).—A momentary but frightful stitch 1. side chest, precordial region as if in diaphragm.—Severe cutting from within outwards in both sides at lower ribs on deep inspiration; only slight at other times; if moves trunk without inspiration no worse; but worse immediately on drawing in the breath.—Cutting stitches at end of ribs right side near spine, especially on bending the back.—As if a great weight on chest.—Boil near last rib.—Chest feels sore to touch.

19. *Heart*.—Oppressive burning in region of heart.—Pulse intermitting; very irregular during attacks of palpitation.—Very annoying action of the heart with an intermittent irregular pulse, worse lying on back.

20. *Neck and Back*.—Drawing pain from mastoid process extending an inch downward, better pressure.—Pressure on outer left neck when walking in open air.—Sterno-mastoid muscles hurt when stretched by turning head.—Nape feels stiff; there seems to be something foreign in occiput, a kind of drawing and pressing on it.—Tension on both sides of occipital foramen worse moving; on waking in morning.—Violent drawing in right neck near foramen magnum.—Tickling, itching stitches between scapulæ, like flea or mosquito-bites; he could not scratch enough.—Sharp pressure under scapulæ.—Violent tearing upper part left scapula; worse sitting, better rising from seat.—Tearing in glenoid cavity of scapula ex-

tends to clavicle.—Tingling numbness of l. scapula.—Cutting stitches at end of ribs, right, near spine especially on bending the back.—In the side of the back, opposite the abdomen, first an aching, afterwards when standing, on the slightest movement and when breathing, a frightfully severe aching shooting, almost as if he should die; he must walk in a bent posture; it felt like the grasping pain of a malignant ulcer when he lay still; in the chest itself there was oppression so that he could not get his breath, as if a great weight lay on his chest.—Burning shooting in right side of sacrum when sitting; better rising and pressing on the spot, when there is only a burning.—Bruised pain in back and loins after waking in the morning.—Drawing tensive pain in left lumbar region, and in the groin, below the inguinal ring extending to thigh; at 7 p.m., while at rest, after a moderate walk.—Dull stitches in second lumbar vertebra.—Sensation as if the small of the back had been knocked away.—Small of back pains as if beaten.—Bruised pain in small of back, loins and neck worse on motion, morning on waking.—Drawing in right side of posterior brim of pelvis and small of back.—Sensation of coldness as though skin and underlying muscles were touched with a point of ice in right side pelvis near sacrum sitting; lasts 30 seconds and returns after eating.—Very violent sprained pain deep in left lumbo-sacral region, unendurable on adduction of left thigh, compelling him to limp, lasts several minutes, followed by bruised pain outer side left knee.

21. *Limbs.*—*Loss of power in the limbs*, especially upper arm, about shoulder, morning, after waking; with slight chilliness under whole skin and feeling of hunger.—Discomfort, heaviness in all limbs.—All limbs feel stiff.—*After walking unusual fatigue.*—A sort of pressive tearing in extremities of long bones, just above or below their joints, in different parts of the body cramp-like drawing in back of r. hand and foot.—Burning, lancinating pain like wasp-sting at knee and elbow, worse at latter.—Pressive drawing and tensive pain in bends of both elbows and knees; better momentarily by pressure.—Tearing and pressive pain in metacarpal bone of thumb, and in the two posterior joints of big toe, worse by contact. Spasmodic pain in right shoulder and left inner malleolus of ankle on walking.

22. *Upper Limbs.*—Twitching of muscles from right anterior clavicular region towards shoulder-joint (in a fascicle of pectoralis major).—*Tearing on top of shoulder in region of head of humerus.*—Sprained pain in uppermost muscles of right scapula on exerting outstretched arm.—Upper arm feels powerless as after severe labour.—Tension and tearing in arms, especially in bones of hands and fingers.—A short paralytic drawing on outside of left upper arm; on pressure it pains as if beaten, same in left wrist-joint.—*Inflammation of arms* (Hg).—Boring, scratching pain in right

shoulder-joint, mornings waking.—Tearing, drawing, beating pains in right shoulder-joint in rest, with marked paralytic weakness of the joint.—A short painful tearing in right shoulder-joint and then in right frontal region.—Pressive bruised pain top of left shoulder-joint on walking.—Sprained pain left shoulder-joint, at rest.—Pressive tearing below shoulder-joint.—Sharp painful drawing in right deltoid muscle; drawing, digging pain under it.—Drawing pains in left deltoid muscle, which pains on pressure as if beaten, at rest.—Boring stitches in right axilla not better by touch.—Sprained pain, posterior wall right axilla on muscular exertion, better rest.—Numbness of arm lain on, mornings, with increased flow of saliva.—Paralytic feeling in arms during motion, especially elbow-joint.—Violent electric shocks in left arm starting from shoulder when lying with hands under the head during a nap.—Fatigue and loss of power especially of upper arms.—Great weakness of upper arm and stiffness of neck, mornings on waking, better after rising.—Fatigue in upper arm and a drawing pain in radius, beginning above the wrist, followed by a similar pain in right shoulder.—Cramp middle of upper arm when raising it.—Pressive pain upper arm worse by touch.—Transient burning stitch front of upper arm.—Paralytic drawing pains: front of right upper arm during rest; outer left upper arm, on pressure pains as if beaten.—Tearing left upper arm.—Muscular twitchings bend of right elbow.—On bending arm tension externally point of elbow.—Painful drawing through right radial joint of elbow, noon; followed by similar pain in left hip.—Biting itching on right elbow.—Violent stitch tip of each elbow.—Spasmodic pressive drawing pain bend of right elbow as from severe strain; only felt on motion; worse extending arm.—Jerking tearings in shaft of radius, first right then left finally in lowest joint of right middle finger; returning from time to time.—Pressive tearing in extensor muscles of forearm.—Paralysis of right arm and hand; it drops and can only write with great effort.—Violent stitch in skin of extensor side left forearm; followed by similar stitch right side chest, 11 a.m.—Stitch in right radius and muscles.—Frequent paralytic painful drawings from middle left radius, flexor side, to elbow.—Drawing, tearing pains above wrist 2 p.m.; from condyles at elbow down along ulnar side right forearm, afterwards same pain in left forearm, evenings in bed.—Drawing pain in radial part left wrist-joint, while at rest, better moving hand; *on pressure pains as if beaten*.—Sharp continued stitch behind wrist-joint, at beginning of radius.—Pressure tearing in bones of either wrist.—Itching in right palm.—Paralytic drawing in every joint of fingers, right.—Painless twitching in whole right thumb, afternoon, on writing, so that it is abducted from the fingers.—Painful drawing in ball of left thumb, alternating with like sensation left occiput.—Drawing pain middle joint right index finger with sudden loss of power in

it, 1 p.m., when at rest.—Drawing in joints of three midmost fingers in motion and at rest.—Drawing tearing pain in middle joint of left index, when in bed; soon turns to a throbbing.—Drawing pain in bone of metacarpal joint of ring finger, at rest, at noon.—Tearing in lowest joint and metacarpal bone left fourth finger, with spasmodic clenching of fingers, especially when seizing something.—Violent tearing middle joint right little finger.—Burning of the hands, itching.

23. *Lower Limbs.*—Powerlessness of lower limbs after waking; knees knock together when walking.—Weariness most marked region of trochanters; as though the ligaments and muscles had given way, with painful tension in muscles about trochanters and buttocks *as if sprained*; especially sensitive on walking; on hard pressure, pain as if bruised.—Stiffness of lower limbs evenings; in muscles about hip-joint on dressing.—Shivering-like creepings through whole outer side left lower limb on standing in a room.—Paralytic weakness in hip and thigh; in right hip-joint, walking, especially moving leg forward, and stitches when setting foot down, causing limping.—Paralytic drawing in bones of right hip.—Painful pricking pressure in right hip-joint when he steps on left foot in running.—Bruised pain behind left hip, on motion.—Sprained pain in right hip-joint; in left hip from sneezing; on every step.—Violent electric shock starting from first left then right hip-joint and disturbing his after dinner nap.—Burning sore feeling between nates after a short walk.—Gluteal muscles pain as if bruised on walking, stooping, adduction on lying on the parts.—Throbbing stitches synchronous with pulse, from left trochanter along neck of femur to socket; at end of each throb a fine stitch, mornings after waking.—Loss of power in thigh on walking in the street.—Tingling, humming vibration in left thigh and drawing in anterior muscles.—Bruised pain anterior surface left thigh and knee.—Knees knock together walking; knuckle when ascending stairs.—Transient drawing from right popliteal space through the knee to outer margin of patella, 10 p.m. in bed.—Pressive pain in knee-joint and from within outward in muscles of left limb when sitting.—Twitching in muscles above left patella.—Tearing dull stitches over left patella in any position.—Bruised pain on left side right patella, worse walking, making him limp.—Bruised and sprained pain left patella and round the back of left side pelvis, worse motion.—Bruised pain in knee, worse sitting than walking.—Bruised pain on inside of right knee followed by biting itching inside left knee.—Pain as if sprained inner side right knee better by rest.—Sprained pain right knee and cramp in calf on walking; mornings after rising.—Throbbing bruised pain on anterior and inner surface right knee on standing.—Electric shocks through right knee-joint followed by two similar shocks through upper part of body which seemed to explode close

to foramen magnum; preventing falling asleep in forenoon.—Slight twitchings in external side left knee with sensation of clucking when sitting.—Cramp-like cutting pain left knee both sides when he does not move.—A short drawing pain in condyles of left knee.—Tearing in left knee-joint when sitting.—In evening when in bed, burning corrosive stitches in left tibia, near knee, which caused involuntary twitching of foot.—Drawing paralytic pain through marrow of right tibia on walking across the room.—Repeated drawing throbbing pain middle left tibia when at rest.—Sprained pain in inner condyle of right tibia, on walking in the open air.—Throbbing tearing middle right tibia.—An extremely violent, almost unendurable pain through whole fibula, with loss of power, 3 p.m., walking.—Paralytic drawing middle left tibia, as if in periosteum, at rest.—Frequent tearing pains now in left now in right head of fibula and below in the bone.—A paralytic pain in periosteum of bone of left fibula while at rest.—Fine cutting pain in left fibula, standing.—Descending stairs calf muscles feel too short.—Cramp in left calf; worse at rest.—Frequent cramp-like drawing lowest portion right calf 11 a.m., both by rest and motion.—*Sensation in left ankle as if the foot had become detached and cartilages did not touch when walking.*—Paralytic drawing in left ankle near external malleolus, at rest.—Transient tearing in left inner malleolus extending upward, in rest.—Cutting stitches in external malleoli from within outwards, when sitting, better walking, worse when foot rests on some small support.—Sprained pain in left external malleolus, walking.—*Bruised pain in left inner malleolus.*—Bruised and throbbing pain in joints of feet; worse sitting.—In joints of feet and lower parts of legs a great turmoil and dull beating as from fatigue, with tingling and stinging of skin of tibiæ; worse at rest better during motion.—Drawing pressive, then throbbing pain, dorsum right foot, in metatarsal bone, while sitting.—Drawing pain in left metatarsal bones and ankle, with burning in the corn of left toe.—Tearing in feet—soles, dorsa, heels, toes (especially lowest joints), tarsal or metatarsal bone.—*Pain in heel when stepping on foot, as if it were pithy.*—Burning sensation in right heel and tendo-Achilles as if they had gone to sleep.—Tearing on back of middle toes (left).—Pain in a corn making it difficult to go to sleep.—Violent burning in corn in paroxysms, even without external pressure for 24 h.—When stepping, feet feel sore as if ulcerated.

24. *Generalities.*—Twitching and palpitation of several muscles, especially right thigh.—Paralytic weakness on walking.—Lassitude and heat all over when walking in open air; he has no sweat; feels a sort of anguish as if his clothes were too tight.—Pains in different parts alternating.—*Convulsive shocks of whole body after previous vertigo; mostly when dropping off to sleep, preventing sleep.*

25. *Skin*.—Burning; itching; stitches as from electric sparks; numbness.—Pimple on left temple.—Boil on lower left rib.—Pimples on tibia with burning pain.—Sore exanthemata, cannot bear them touched.—Greyish ulcers with shaggy borders on prepuce and throat.

26. *Sleep*.—Dizzy drowsiness; his eyes closed.—Inclined to sleep forepart of night, but could not for heat and stinging as from gnats on skin; when half asleep was attacked with vertigo so that he thought his head would fall out of bed, followed by violent convulsive shaking of the body as in epilepsy, with vertigo and sleeplessness.—*A repeated, sudden electric shooting* of whole lower left limb beginning from knee-joint on beginning customary afternoon nap.—Wakes 3.30 and cannot sleep again.—*Extremely restless at night*.—Dreams of care; of fright; of unpleasant things; anxious; not remembered; of events of the day.—*As she sinks into a doze, an electric shock of the whole body or a single limb interrupts sleep*. Anxious frightful dreams; on awaking believes them true (in cases of palpitation of the heart.)—Nausea in dreams.—On awaking imagines he has suffered the accident he had dreamed about.—A dream that he was followed by a powerful raging fiend; in the morning he woke very early and was very weak; the weakness seemed to concentrate itself in the hip.—Many anxious dreams with screaming.

27. *Fever*.—Shivering through whole body.—Slight chilliness under whole skin, mornings in bed after waking.—In afternoon, chilliness until he went to sleep; even in bed could not get warm; *sweat after midnight*.—*Chill before midnight, every time the bed-clothes are raised*.—Coldness in small spots.—Chilly, stupid; chill spreads from the back.—Chilliness on the back and on the feet, extending beyond the malleoli; continued 2 h. and was very painful; no worse by walking.—In forenoon, heat and feeling of heat over whole body, less, however, about the head, without any thirst, with a little sweat on abdomen and some on chest.—Hectic fever every day from 11 to 12, or 1 o'clock.—*Sweats easily; during and after eating; upper part of body or only front of body*.—*Oily sweat on abdomen or chest*.

**SPLANCHNOPTOSIS.**

By JOHN M. LEE, M.D., Rochester, N. Y.

When the Secretary of this Society wrote for the title of my paper I hastily sent it, in obedience to his command, but as I began to write I found I could handle the subject better under the theme of ptosis of the abdominal viscera, or splanchnoptosis, which includes intestinal stasis as a prominent if not the most prominent symptom. The subject is so extensive that the briefest consideration is alone possible, since a long paper could be written from several of the sections of this article.

The etiology of the disease shows that the slender, spare, lank individuals of the nervous temperament afford most examples of the malady. (Fig. 1.) The hanging of the skirts from the waist, faulty posture of the young usually at puberty, throws unusual and excessive strain upon the ligaments and supports, which, together with relaxation of muscles, especially the abdominal group,



(FIG. 1)

permits the organs to sag little by little until, in a lean subject, a severe form of the disease develops. Tight lacing shown by the scarring of the skin, the wasp-like waist, the flaring of the ribs outward and the crowding of part of the organs upward and others downward, afford a familiar picture, especially among the fashionable. In rare instances the liver is constricted and so attenuated at the point of greatest pressure that the part is thinned to a mere fibrous membrane or pedicle-like connection between the upper and lower lobes.

Pregnancy and its attendant weakness or loss of tone of the abdominal muscles, rupture of the perineum and congenital displacements must all be reckoned with as causative factors. More important than these is the vacuum after labor, the diminution of intra-abdominal pressure and lack of support caused by dropping away of the intestines from the organs of the upper abdomen. It is chiefly due to these phenomena and tight lacing that the disease is several times more frequent in women than in men. The congenital predisposition to the malady is mostly expressed in the peculiarly slender and lank conformation of the body. Emaciation and loss of tone from any cause may serve as etiologic factors,

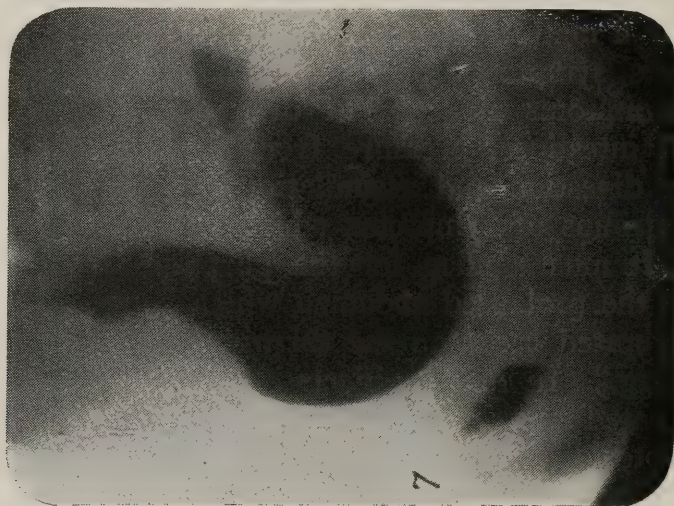
Stasis may be a cause of ptosis and vice versa, by reason of imperfect assimilation and auto-infection and the abnormal weight of the overlaid stomach and intestines. Incompetency of the ileocecal valve, Lane's kink, Jackson's membrane, other membranes or adhesions, congenital or acquired, may cause intestinal stasis; physical disability and muscular and ligamentous relaxation, which, with the added intestinal weight and constant dragging on the ligaments serve as strong etiologic factors.

Fortunately, splanchnoptosis or ptosis of all the abdominal organs is a rare disease. Its symptomatology may be meager or very complex, therefore it would be a waste of time to go into it further. As a matter of fact all the medical specialists could find, in some cases, symptoms to bolster up almost any diagnosis if they relied on symptoms alone. The dragging on nerves, kinking of vessels and intestines, pressure from displaced organs, intestinal stasis, poor digestion and assimilation and auto-infection, present discordant groups of symptoms which would be very unprofitable to detail. It must suffice for the purpose of this paper to call attention to the prolapsed abdomen which hangs over on the pubes or in exaggerated cases on the thighs, as Rovsing says: "Like a half filled bag." In spare subjects, which are the rule, the organs may be palpated and recognized in their abnormal positions.

Gastroptosis, on account of the anatomy of the stomach and colon, must include coloptosis, and occasionally these diseases are associated with nephroptosis. The symptomatology here is more constant and suggestive though one ought not to place reliance on it as anything more than a hint to diagnosis. The mental state may closely resemble hysteria, neurasthenia or melancholia. Nausea and vomiting may be present which, with abdominal tenderness and pain over the vermiform process, simulates appendicitis or peritonitis. In fact, the irritation of a right movable kidney on a retroposed sensitive adherent appendix may induce an acute attack of appendicitis ingrafted on the chronic malady. The pain and distress from the kinking of sensitive nerves and vessels of the kidney pedicle often induce spasmodic pain which may be mistaken for calculi in the ureter or biliary passages, "although no tumor of the gall-bladder is found and there is no jaundice." There is a sense of weight and discomfort in the abdomen and much palpitation of the heart. Dyspeptic symptoms are present, food finds its way out of the stomach slowly, there is much accumulation of gas all through the digestive tract, and the bowels are constipated. There is partial closure of the pyloric orifice from traction, the lumen of the bowel at the hepatic and splenic flexures is collapsed and partially closed by ptosis of the stomach and colon, which from their depressed and dependent positions resemble in effect "the sewer-pipe trap." (Fig. 2.) Thus the contents of these

organs remain unduly long, and fermentation, putrefaction and auto-infection ensue. This gastropptosis with its intestinal stasis yields a mass of symptoms which are often interpreted both as the result of gastric ulcer and cancer of the stomach.

Rovsing, of the University of Copenhagen, in his clinical lectures reports two cases of gastropptosis which his colleague internists transferred from the medical to the surgical ward, as they believed, for operations for gastric ulcer and cancer of the stomach, respectively. Rovsing corrected the diagnosis and performed his gastropexy on both patients with success. They are such striking



(FIG. 2)

examples of the great extent to which malnutrition and emaciation may go, that I refer the reader to these patients in Rovsing's *Abdominal Surgery*.

The most characteristic symptoms of this malady are: partial convalescence in bed from diet, and appropriate treatment, soon to relapse again and again when the patient assumes the erect position or follows her usual vocation; the constipation, gaseous distention and ballooning of the cecum, particularly from the dragging and partial obstruction of the colon at the hepatic and splenic flexures, returns with all the distressing symptoms; or if the patient has suffered from so-called nervous affections of the stomach they all reappear, the amelioration from lying on the back often gives place to pain when the patient turns on her side and it is referable to the opposite side from which she lies; relief comes from nightly repose to return on arising in the morning or from sitting upright in bed.

The diagnosis of splanchnoptosis is not difficult, as the disease develops in tall, slender subjects with thin abdominal walls. The liver, spleen and kidneys can readily be recognized by palpation,

(Fig. 3.) The prolapsed stomach and colon are easily observed in their abnormal positions while their absence from the epigastrium is made clear by inspection and the readiness with which the tissues normally concealed by these organs can be examined and identified. If doubt still exists, any of the scientific methods used for the diagnosis of gastropptosis and coloptosis may be employed. The aorta is exposed throughout the epigastrium except for the thin abdominal covering, and the patient anxiously calls attention to its pulsation. The aorta, vertebræ and usually the head of the

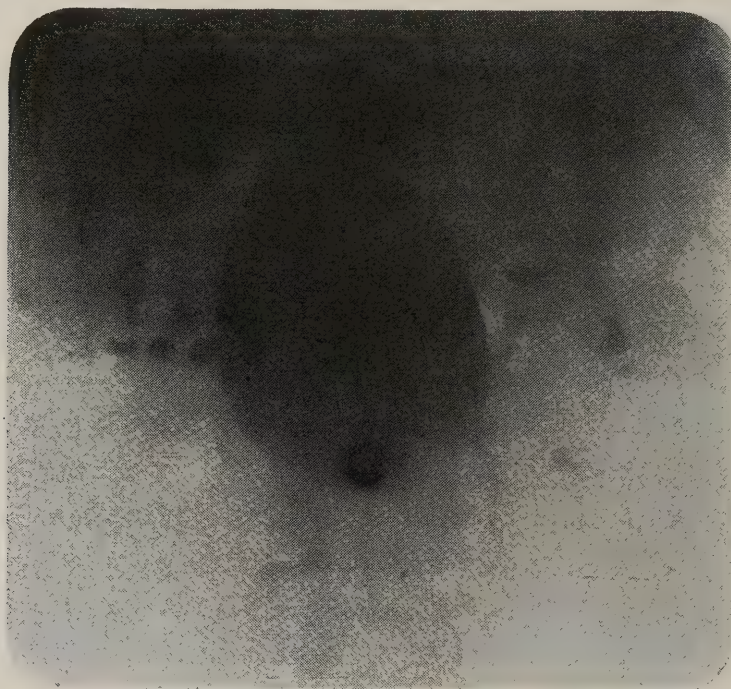


(FIG. 3)

pancreas can be clearly made out through the single layer of attenuated overlying structure. The stomach splash is readily observed in its prolapsed position many hours after meals, and scraping auscultation is noted. The physical signs may be further brought out by dilating the stomach with air through the stomach tube or by the use of bicarbonate of soda and tartaric acid alternately to liberate carbonic acid gas. Radiography, immediately after a barium meal, will quickly clear up the question as to the position of the stomach (Fig. 4.) and twenty-four hours later the diagnosis of the position of the colon may be established by a second Rontgenogram. (Fig. 5.) These pictures clear away all doubts and may reveal part of the colon as a pelvic organ and the greater curvature of the stomach to lie only one or two finger breadths above the pubes. The differential diagnosis of gastric ulcer and cancer is cleared up by consideration of the symptoms and physical exami-

nation, analysis of a test breakfast, the use of the gastroscope (Fig. 6) and exploratory incision.

The general treatment of the disease falls to the internist who should begin early when the etiologic features are first recognized. While common principles may be employed, most cases will have to be studied individually and such remedies used as will especially suit the needs of each patient. If heredity has imparted the peculiar ptotic type of body expressed largely in the funnel thorax, it should be intelligently and persistently combatted,



(FIG. 4)

for it is here that the greatest obstacles to treatment are met. Violent sports and fatigue should be avoided and vicious forms of dress rejected. Much may be accomplished by postural and hygienic management. For example, faulty carriage of the body which relaxes the abdominal muscles and thus weakens visceral support, should be corrected. If the standing posture is abnormal it must be rectified by the efforts of the patient or by these supplemented by some intelligent and faithful member of the family. Well masticated foods selected to increase the weight and small amounts of fluid should be taken at a time to prevent over-loading of the stomach. Galvanism, faradism, static electricity, vibration and massage are useful. The indicated remedy to improve the tone of the patient and thus increase intra-abdominal pressure is of value. Tight lacing must be avoided and belts and constricting waist-bands interdicted. Much instant relief and permanent benefit

comes from frequently assuming the flat dorsal position with the chest on a lower plane than the rest of the body. Patients who are also students should form the habit of study in this position. It will correct the constipation and greatly aid the other methods of treatment, especially those indicated to relieve the gastrointestinal disturbance.

The mechanical treatment consists chiefly in the application of carefully selected and properly fitted stays and bandages; and when they are once adjusted, to keep the patient under observation in order to see that they are not worn carelessly and thus inefficiently. These may not be of much service in any except "pot-bellied"



(FIG. 5)



(FIG. 6)

subjects or women who have borne children. However, it is the province of the attending physician to determine what is best and his judgment should be supreme. The chief indication is to support the abdomen from the pubes up to the umbilicus. Many methods are in use, four of which possess considerable curative value, and I give them in the order of their greatest merit.

*First:* The common flannel bandage, four to six inches wide and five to ten yards long. The end of the bandage is laid on the right thigh on a line with the antero-superior spine of the ilium and one turn made, when it is brought up over the initial end and securely stitched. It is then applied snugly and smoothly, and the circular layers are placed with liberal laps from the pubes to a point

one-half inch above the umbilicus where the terminal end is secured by needle and thread or a safety pin. It is needless to say that the bandage, as all other supports, should be applied with the patient in the flat dorsal position with the chest depressed.

*Second:* "La Grecque" corset, which may be secured in any modern department store. Some ladies refuse to use the bandage, and others fail because they are firmly convinced beforehand that it cannot be made a success. "La Grecque" corset meets the indications, ladies take to it readily, and if the upper part is not laced too tightly it will supply the needs admirably.

*Third:* Vermehren's belt. It is a Danish product and serves the purpose well. Rovsing believes it to be the "*appliance par excellence*" and gives full directions for its use in his book on Abdominal Surgery, page 222.

*Fourth:* Abdominal support by use of the zinc oxide moleskin abdominal plaster belt, known as Rose's plaster abdominal binder. This, perhaps, is the most efficient remedy but as it may make the skin sore I have placed it last. Although under favorable conditions it can be worn several months or even a year, it is better to change it every six weeks. The skin should be carefully shaven, then cleansed by a tub bath. The oil of the skin should be removed by ether and care taken not to apply the plaster over the pubic hair. When the bandage has been worn, any bits of plaster that remain should be removed with a little ether on a soft cloth. If the skin is broken or in an unsound condition a new bandage should not be applied until it has healed; meantime the patient should remain in bed. While this plaster support may be used in any way the surgeon's judgment dictates, Rose's method is exceedingly acceptable. Take a piece of plaster about seven inches wide and long enough to encircle the body and lap a few inches in the back, fold it transversely on its back and make the two ends equal so as to find the center of the piece which should be marked. Now draw a curved line from each end of the plaster, starting one and one-half inches from the top and ending at the central fold at the bottom. Cut out the two pieces, stick their backs to the face of the belt, and it is ready for application. None of these measures must be used until the patient is in the dorsal recumbent position with the chest depressed and the prolapsed organs replaced.

*The surgical treatment.*—Splanchnoptosis may be treated by the general and mechanical measures just detailed; or where these are unsuccessful and the abdomen hangs down on the thighs like a half filled bag, an irregular triangular piece of skin and fat, fashioned to suit the case, five to eight inches wide and a foot to eighteen inches long, may be dissected transversely from between the umbilicus and pubes and the cut borders stitched so as to hold the organs in place. This causes the tissues of the lower abdomen

to serve as a bandage and meets the indications well, though, if more support is finally necessary, the bandage may be used or any other operation performed.

The further surgical treatment of this disease presents great obstacles. The liver, the largest organ in the prolapsed group, must always be treated first, in order to make room to bring the stomach in place and this requires varied methods to meet the indications in each individual case. If, by the use of the tight corset, the right lobe of the liver has become pedunculated it must be amputated either by the cautery or angiotribe; then, when the bleeding, if any, has been arrested, the cut border may be grooved out and the edges carefully united. If the left lobe is found to be hypertrophied and prevents the stomach from coming up in place, it may be amputated with comparative safety by means of the angiotribe which crushes a channel through the fragile tissues of the liver and includes the large vessels and peritoneal covering of the organ in a thin paper-like connection between the part to be removed and the liver itself. This, if carefully done, arrests completely the hemorrhage and enables the surgeon deliberately to sever this thin crushed membrane close to the portion to be removed. If thought necessary, the two layers of peritoneum may be separated, the crushed vessels exposed and ligated, then the peritoneum secured by a running suture. If any portion of it has been destroyed and the raw surface cannot be covered, a bit of omentum must be stitched over it. This treatment is only for badly complicated cases. If the liver is normal it will go into place readily and there will be no obstacle to replacement of the stomach, though the liver must always be sutured first: Press it into position and see where the suturing to the diaphragm and the capsule can best be made. Then scarify the peritoneal covering of the liver and diaphragm with the point of the scalpel or needle, and take a piece of chromic catgut, thread it into a round curved needle and "Pass the needle in and out through the capsule and peritoneal covering of the liver on the dorsal surface beginning transversely and parallel with and close to the edge to be led in and out through the peritoneum longitudinally up to the highest attainable point of the diaphragm. From here the needle is passed transversely through the diaphragm with the same latitude as was allowed to the edge of the liver, then descending again through the peritoneal covering of the liver until one meets the starting point of the thread. When the surfaces are exactly adjusted the thread is carefully tightened and tied. From one to four or five such rectangular sutures are necessary for the adjustment of the liver according to the extent of the prolapse."\*

When the spleen has a twisted pedicle and degeneration has

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\* Rovsing.

taken place in its substance, extirpation is indicated. If the organ is not hypertrophied it should be brought into position and splenopexy performed after the method about to be described in a similar operation upon the ligamentum gastrocolicum or by several rows of buried sutures. The transverse colon and stomach which have been protected outside the abdomen by means of a large piece of warm gauze, next receive attention: An assistant takes hold of the colon and makes traction sufficient to remove the slack and thus enables the operator to observe plainly and avoid the vessels. The surgeon now proceeds to run a mattress suture for a distance of about three-fourths of an inch, longitudinally, in and out, with the colon to the right, piercing its middle and outer coats, then the suturing is turned at right angles and the needle passed through the ligament, upward, until the stomach is reached, when it is drawn through and re-entered longitudinally, with the stomach to the left, at the attachment of the ligament. A distance of about three-fourths of an inch is traversed by it when it is withdrawn and started back through the gastrocolic ligament, downward, parallel with the suture running from the colon to the stomach, to its starting point. Three or four of these sutures are passed and tied, which brings the colon close up to the greater curvature of the stomach.

The stomach is taken up lastly and gastropexy performed according to the method of Rovsing by passing a strong chromic catgut thread down through the abdominal wall on the right side, about three-fourths of an inch from the cut border. When the needle reaches the peritoneal side it is passed in and out in a curved line about an inch from the lesser curvature of the stomach, across the pylorus and out through the upper abdominal wall. The needle is removed and the two ends of the suture included in an artery forcep and turned to one side. A second suture is passed through the abdominal wall about three-fourths of an inch below the first and traverses the stomach in and out at about three-fourths of an inch below the first thread and is finally brought out through the abdominal wall of the opposite side. Three or four of these sutures are passed and drawn up sufficiently to replace the stomach and the abdomen is closed. The fixation threads are then tied down over a glass plate about two inches wide and four inches long and wrapped by many thicknesses of gauze.

There are other methods of suturing these organs in place, but only two, Beyea's and my own, will be given. The former consists in bringing the gastro-hepatic ligament together by three rows of buried interrupted chromic catgut sutures.

My first patients were all operated on before a description of either of these methods was obtainable and as the cases were all successful I will give the technic as I devised it, chiefly at the operating table.—A piece of No. two chromic catgut in a round

curved needle was passed down through the abdominal wall on the patient's left side, at the upper angle of the wound and one and one-half inches from its border, then made to perforate the outer and middle coats of the stomach in and out, downward, for one-half inch, then turned at right angles toward the linea alba and passed longitudinally with the organ, for one inch, then upward, parallel to the first suture, which carries it back to a point on a horizontal line with the starting point, when it was made to pass through the abdominal wall one inch toward the median line and parallel to the point of entrance. Three or four of these mattress sutures were made on each side one below the other, the stomach was replaced, the fixation sutures tied down and the abdomen closed. Beyea's gastrorrhaphy, which appears to be a more logical operation than either Rovsing's or my own, is now used, though frequently the mattress suture is employed to supplement it in order to preclude the possibility of relapse. In any of these procedures free incision must be made to give abundant room for exploration and to execute the technic. If organs are in the way they must be turned out of the abdomen and protected by suitable hot wet gauze.

Diseases of the abdomen have come into the surgical field so rapidly since our initiation into practice and especially during the past decade, that it becomes necessary to strip ourselves of all fads that retard progress or prevent achievement of the fullest measure of success. Great effort must be made to diagnose all complications possible, then be fully prepared to meet successfully, so far as human forethought can go, the hidden, unfathomed or, prior to operation, unknowable diseases, which, if neglected rob the patient of expected relief and the surgeon and his art of rightful glory. In no branch of practice is this so marked as the one under consideration at the moment; and the members of this Society, be it said without a blush of fulsome praise, are able to meet the above requirements with the greatest credit to themselves and benefit to the public.

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## A REVIEW OF OBSTETRICAL ANÆSTHESIA.

By T. DRYSDALE BUCHANAN, M.D.

To the uninitiated it would appear, from the advice given the profession by lay magazine writers and newspaper editors recently, that all maternity cases conducted by physicians were allowed to suffer without any aid being offered them.

That these writers are within their rights in advocating that physicians use anæsthetics to a greater extent during labor, is not denied, but that they are unqualified to dictate to the profession that they adopt any one method, is equally true.

We have at our command many excellent methods of anæsthesia, and had some of these hysterical writers taken the trouble to inform themselves they would have found that the doctors have been using some one of these methods since the days of Morton.

Ever since Sir James Y. Simpson announced his use of chloroform as an anæsthetic in midwifery the laity and many physicians have assumed that this drug was the most suitable for obstetric cases.

That chloroform possesses many advantages is admitted, but that the woman in labor is peculiarly immune to its poisonous properties is without scientific foundation; on the contrary, the many reported deaths from acute yellow atrophy, fatty degeneration of the liver and acidosis following its use would indicate that pregnancy adds to the risk.

To the woman suffering during a severe labor the dangerous element of fright is absent, and anything offering relief is welcomed, and it would be futile to argue that in chloroform we have not a drug that will meet all her requirements with speed, pleasantness and certainty. It is not disagreeable to inhale, it is inexpensive, and a few inhalations produce analgesia and amnesia. It can be given on a simple mask and rarely causes much nausea and vomiting. Many of the deaths reported were probably caused by administering it in a too concentrated form or by giving more than required, the surplus probably being stored in the portal circulation.

The intelligent administration would unquestionably decrease the number of deaths in the future, so it can not be too strongly urged that it be given by a very free admixture by holding the mask about one inch from the face, or, better still, by utilizing a wash bottle and vaporizing it with air or preferably oxygen. The practice of allowing the nurse, friend, or husband to administer this powerful poison is only exceeded in foolhardiness by the physician's attempting to conduct the anæsthesia and labor himself. Another doctor should be called in for the purpose, and he should

give his undivided attention to this duty. Only a short time ago the writer declined to testify against a doctor who entrusted this duty to a nurse. The young lady patient was given the proverbial "one whiff," and the funeral and lawsuit followed shortly after.

If the emergency is sufficiently urgent and no medical aid available it is better judgment to select ether, because with that the margin of safety is wider. This is equally true if the operation is expected to be a long one.

Ether will meet all the demands of the case, though slower in its action and less agreeable to inhale. The pungent odor is soon forgotten by the patient in the relief experienced.

Ether lends itself to a simple method of administration, a gauze mask being all that is necessary, and it is to be preferred to chloroform in all cases unless positively contra-indicated.

Severe lesions of the respiratory organs are contra-indications for the use of ether, but by utilizing warmed vapors or Gwathmeys colonic (oil and ether) method even these cases can be satisfactorily etherized.

In the presence of kidney lesions a short ether anæsthesia is not apt to increase the trouble.

It is not necessary to carry the patient in full anæsthesia, for, as a rule, analgesia and amnesia are all that is desired, but should operative measures be demanded the nitrous oxide ether sequence is a refinement of administration appreciated by the patient.

Some fifteen years ago the profession in Europe and America were afflicted with the spinal anæsthesia craze, and of course some of the obstetricians were infected. This radical proceeding as an aid to labor cases was of short duration.

This was followed by the reign of the hyoscine, morphine and scopolamine-morphine hyperdermiclysis abandoned by most physicians on account of the number of cases of still-births, oligopnea and apnea on the part of the child, and delayed labor on the part of the mother.

Many cases, however, went through the delivery period with great success, and this method is still in vogue with some doctors.

As this brings us to a discussion of "Twilight Sleep" it may be said in passing that the hyoscine was obtained from the hyoscyamus and was not as reliable a standard in its action as that obtained from scopolia.

Krönig and Gauss in advocating this method of anæsthesia lay particular stress upon procuring the pure drugs and on the methods for preserving the same. Their technic is by this time too well known to warrant the details being rewritten again in this article, but if anyone is desirous of experimenting with twilight sleep he is urgently advised to carefully read and follow the exact technic they advocate.

Through the courtesy of Dr. W. H. W. Knipe, Obstetrician to Gouvenen Hospital, the writer was privileged to see a number of cases treated according to the exact methods of the Freiberg clinic and was very favorably impressed with the Dammerschlaef.

The oligopnea and apnea were not present in all the cases and in the few cases they were present they were not alarming. Dr. Knipe had spent some time in Freiberg and followed Gauss' methods with accuracy as to detail.

In an article entitled "Twilight Sleep in Practice" (Medical Record Dec. 5th, 1914) and in personal interviews Dr. Knipe gives the following conditions as necessary to success.

1. The physician should have a thorough knowledge of obstetrical forces and conditions so that he may know when interference is indicated.

2. After the first injection is given he must give all his time to that patient until the child is delivered. This, of course, is impossible in a general practice unless a man is willing to sacrifice his general work for his obstetrical case.

3. A proper preparation of scopolamine must be used that will not decompose; and morphine or one of the morphine derivatives must be used with extreme caution.

4. The environment must be such that a reasonable quiet and the absence of bright light are obtainable. The ideal place for conduction of twilight sleep therefore is the hospital.

5. After the first injection of scopolamine and morphine, the patient must be watched and her reaction to the pupillary, the motor coördination, memory and Babinsky tests noted.

6. One must strive to get along with the least possible dose of morphine, not attempting to obtain narcosis but just amnesia.

7. Do not try to hurry the patient into this stage.

Gauss maintains that if the woman feels no pain it is evidence that she has been overdosed.

If all these factors are present the method will attain and maintain a place in obstetrical anæsthesia in selected cases, but if one of them is absent then failures are bound to occur and the method be unjustly criticized.

Two or three years ago Dr. Gudell of Indianapolis wrote a paper on the self-administration of nitrous oxide in labor and reported a number of cases in which the patient would at the beginning of each pain place an inhaler over her face and inhale nitrous oxide up to the point of losing consciousness. The inhaler would then drop from her grasp and the inhalation automatically stop.

The writer tried this on a number of cases and was highly pleased with the results, being able to verify all Dr. Gudell's claims for the method.

Following the success of the self-administration of nitrous oxide in February, 1912, a series of experiments was done at the Hahnemann Hospital with nitrous oxide, nitrous oxide and oxygen, and nitrous oxide oxygen and air, carrying obstetrical cases first in the analgesic stage with the nasal inhaler, then using the face mask and carrying them in the anæsthesia zone.

The results as a whole were very strong evidence that nitrous oxide in some form would prove to be nearly ideal in this class of cases.

In the early cases an attempt was made to obtain analgesia by interrupted administrations (with each pain only) but it was soon found that in most of the cases this could not be done. A continuous administration is essential to maintain this zone.

The patient is instructed to breathe air through the mouth if she feels approaching unconsciousness and to breathe through the nose if she feels pain. She is instructed not to go to sleep. The technic followed was the same as that used by dentists for preparing painful cavities.

Where forceps or operative interference was necessary the air was shut off and nitrous oxide and oxygen given to full anæsthesia.

It was found that in all cases the woman could feel the uterine contractions but the pain being absent or at least made bearable, she was able at all times to bear down and help in the delivery. Two of the cases terminated in hysterotomy.

Some of the apparently unsuccessful cases had no memory of their outcries and in a very few the method was an absolute failure.

Since the experiments this form of anæsthesia is the only one used in private maternity cases at the Hahnemann Hospital, and Dr. Herbert C. Allen has used this method with success in a great number of cases at the Cumberland St. Hospital. He has reported his series under the title "An American Twilight Sleep."

In favor of gas and oxygen it can be said that it leaves no toxæmia of blood changes, being eliminated almost immediately. There should be no cyanosis of mother or babe if properly given. It does not delay labor unless full anæsthesia is maintained. There is no apnea nor oligopnea following its use, it is agreeable to inhale and there is no increased tendency to post partum hemorrhage.

On the other hand the expense of the gas and oxygen is prohibitive to ward patients, a special apparatus and a skilled administrator are of prime necessity.

Like nitrous oxide and oxygen in other surgical cases it is necessary to give some ether to certain cases, in fact, to almost all if surgical anæsthesia is desired. The amount of ether called

for varies according to the patient's susceptibility and the skill of the anæsthetist.

In all obstetrical anæsthesias it is rarely necessary to carry the patient deeper than the analgesic and amnesic zone unless forceps or operative procedures are adopted.

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## THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE KIDNEY.

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Tuberculosis of the kidney is a condition that frequently exists; but, unfortunately, it is rarely recognized until it is far advanced, errors in diagnosis often occurring on account of the fact that the early symptoms are mostly referable to the bladder. Practitioners, consequently, are misled into treating these cases as those of cystitis for a long time—of course, without result; and this makes the prognosis very grave. The object of this paper, then, is to emphasize the importance of a correct and early diagnosis, in order that surgical therapeutics, with appropriate after-treatment, may produce a cure.

The disease occurs about twice as frequently in males as in females, usually attacking young adults; although it is not uncommon to see it in those above the age of forty years, and it may be found in children.

Although the miliary form is usually bilateral, statistics show that in about sixty per cent of the cases examined postmortem, renal tuberculosis of the caseo-cavernous type, which is the only sort amenable to surgical treatment, is unilateral. The chances that both kidneys may be involved are twice as great in children as in adults. Statistics show that in twenty per cent of the postmortem cases, the lungs and other organs participate in the morbid process.

In some rare cases in which genital tuberculosis is primary in the epididymis, or in which a lesion of the prostate exists, the bladder may become secondarily involved by contiguity, and ascending infection through the ureters into one or both kidneys may occur. Usually, however, the infection is hematogenous; and it commonly gives rise to the caseous nodular type of the disease, in which cheesy foci find lodgment midway between the bases of the pyramids and the cortex of the kidney substance. These foci vary in size. Later, they undergo softening and liquefaction, and break either toward the renal pelvis or into the kidney envelope. Not

infrequently, tubercles are located above and beneath the true capsule, where they appear as fine nodules. Eventually, after these foci liquify, the kidney is converted into one large abscess or into many minute abscesses. If, however, the infection is an ascending one, the kidney pelvis, naturally, is attacked first at the apices of the pyramids, while if, as is sometimes the case, the infection is both hematogenous and ascending, one finds the varied foci of tuberculous deposit quickly becoming a large suppurating sac. This type of the disease is recognized as total caseous degeneration.

At operation, a kidney is occasionally found presenting numerous isolated nodules that have not yet undergone liquefaction. This variety, the fibrous nodular form, is indeed quite rare.

In acute miliary tuberculosis, either one or both kidneys may reveal a primary focus that is quite small. It may appear as a minute tubercle of grayish-white color (at first, pearly white; and later, dull and opaque); or there may be a circumscribed nodule surrounded by a hyperemic zone. The tubercles may be few in number and localized, or abundant and scattered throughout the organ. The cortical region seems to be the common seat of the infection.

The process in the chronic form commonly begins at one portion of the organ, usually the lower, and extends until the whole kidney becomes involved. At first, it appears as a small, grayish-white nodule. The tubercle enlarges, breaks down, and becomes caseous. The organ is frequently enlarged, but its shape is not altered. It feels soft, and gives a fluctuating sensation to the touch. The capsule is adherent. A cut section shows the kidney to be converted into a number of sacs, many of which communicate with the pelvis and extend up into the cortex. In advanced cases, the kidney substance may be almost totally destroyed, consisting only of a thin shell; or merely the capsule, enclosing caseous material, may remain.

In another variety, the kidney is studded with many firm, grayish-white nodules, varying from the size of a pin-head to that of a pea. These nodules may exhibit little or no tendency to necrosis. The capsule adheres; and when it is removed, the surface of the kidney shows small, elevated nodules.

The tissues about the kidney are frequently the site of chronic inflammation, converting the fat into connective tissue; or else a suppurative perinephritis is produced, owing to the extension of the liquefactive tuberculous process to the capsule by contiguity.

In primary tuberculosis of the kidney of long duration, the ureter invariably becomes diseased. Simple tuberculous inflammation is produced, with the result that the wall becomes thickened, causing stenosis of the canal and converting the ureter into a firm cord, which is adherent to the surrounding tissue. Often, in

attempting to catheterize the diseased ureter, I have encountered this condition. Of course, in the rare ascending form of kidney tuberculosis, the ureter is always involved before the pyramids and is the first to show the tuberculous changes.

As has already been remarked, the early symptoms of renal tuberculosis are entirely referable to the bladder. Urination is quite frequent, and the patient may void hourly, both by day and by night. Frequency and incontinence at night are, however, the most suggestive symptoms, being due to a reflex irritation from the kidney or to bladder involvement.

Previous to a rupture of the tubercles, the amount of urine is increased. It is clear and sparkling, with a low specific gravity and an acid reaction. Strangely enough, the urine is nearly always acid, being alkaline only when there is abundant pus, containing many micro-organisms. Some pyuria is usually present, varying with the extent of caseous degeneration and ureteral patency. It usually appears in the more advanced cases, as a thick, creamy mass, which rapidly sinks to the bottom of the beaker into which the urine is voided. In many instances, however, particularly in the earlier cases there are but slight traces of pus and albumen present.

Hematuria is found in varying amount, depending upon the extent of ulceration about the apices of the pyramids. It is rarely profuse, sometimes barely clouding the urine. Although not a constant symptom, it is a very suggestive one.

Micturition is not, at first, painful; but later, it becomes agonizing, as the result of rupture of the tubercles. This is especially true when the ureter and bladder are involved, the act then becoming a torturing vesical tenesmus. Owing to the frequency of urination, the patient's life becomes one of constant torment.

Renal tumor is not commonly perceptible at first, but may be present later, varying in size with the amount of kidney degeneration.

The pain of renal tuberculosis, while almost constant, varies in intensity at different times. It is not usually acute, but of a dull, aching character—particularly in women suffering from nephroptosis. Commonly it is worse at night. It varies with the degree of liquefaction of the tubercles and with the amount of pus present. It may simulate Dietl's crisis or, when blood-clots are passed, suggest renal colic. It is especially worse at the menstrual period. I have in mind the case of a colored girl with no involvement of the uterus or adnexa, and no disease other than tuberculosis of the right kidney, whose temperature and pulse were never more than normal and who did not complain of renal pain except at the menstrual period.

The pain in this disease is usually referred to the lumbar region and to the side affected. It is some times felt along the course of

the ureter, especially over the crest of the ilium; and sometimes suprapubically, when the vesical end of the ureter is involved.

The constitutional symptoms consist, at first, in a slight nervousness and malaise, a little elevation of temperature in the afternoon, and disorders of digestion. Chronic digestive symptoms are pronouncedly present in early renal tuberculosis. After the tubercles rupture, the temperature may rise to 101° F.; and in septic cases, to 104°, the chart showing the temperature and pulse of sepsis. Loss of weight is also pronounced. Like tuberculosis in any other part of the body, renal tuberculosis is characterized by exacerbations and remissions of the symptoms.

As previously noted, the small amount of pus and albumin present in many cases of renal tuberculosis, particularly in the early stage, is very likely to mislead the practitioner into not giving due consideration to the possibility of the existence of that disease, in the belief that the condition present is merely vesical. Such mistakes in diagnosis would be prevented, if physicians would make it a rule never to begin the treatment of albuminuria, pyuria or cystitis until after having made careful chemical, microscopic and bacteriologic examinations of the catheterized urine. It is of no avail to examine merely the voided urine for the presence of tubercle bacilli, on account of the fact that the smegma bacillus will take the same stains as the tubercle bacillus, and the finding of smegma bacilli may lead to an erroneous diagnosis of tuberculosis. To avoid any error in diagnosis between other acid fast bacilli and tubercle bacilli it must be recalled that the tubercle bacilli is alcohol fast while the others are not. Not infrequently, also, colon bacilli are found in such cases, these organisms still persisting even in the presence of tubercle bacilli; and in advanced cases, one naturally finds many of the pus-producing cocci in conjunction with the tubercle bacilli.

Tuberculosis may, of course, exist without albuminuria; but the presence of albumin should suggest a search for the tubercle bacillus. Even when this organism is not discovered, intermittent albuminuria, in connection with other signs suggestive of kidney tuberculosis, is sufficient to confirm the diagnosis in many instances—particularly if the pathologist cannot succeed in making a culture of any other organism from the urine submitted to him. If, after several microscopic examinations, he has found pus, but no microorganisms, one may make, with almost complete certainty, a diagnosis of tuberculosis. Rosing has been able to discover the tubercle bacillus in 80.7 per cent. of all his cases of tuberculosis of the urinary tract, by means of Forsell's method of examination, which consists in taking the lowest portion of the precipitate of the aggregate twenty-four hours' urine in a separator, treating this centrifugally, and examining it under the microscope.

If the tubercle bacilli cannot be detected with the ordinary

methods of culture, the sediment from the specimen of urine obtained by catheterization may be injected into a guinea-pig. This test is of considerable value in the case of urines that contain no other bacteria although it has the disadvantage of slowness. When, however, other organisms than the tubercle bacillus are present, it is not satisfactory, on account of the fact that the animal is likely to succumb from the coincident infection before the test is complete. The catheterized urine is collected in a sterile container and centrifuged for two or three minutes, after which the sediment is washed several times with sterile water, in order to free it from any urinary salt. It is then mixed with one cubic centimeter of salt-solution or sterile water, and injected into the peritoneal cavity of the guinea-pig. The animal should be weighed before the injection, and each week subsequently, so as to see whether it has lost in weight. It is killed at the end of six weeks, and examined for evidences of tuberculosis.

The urine should be examined for urea. Cathelin lays especial emphasis upon the quantitative study of the urea contained in the diseased kidney, which he obtains by segregation, and has formulated a number of rules concerning its elimination. He absolutely decries, from a diagnostic standpoint, any other test for the function of the kidney.

In order to determine the course, character and extent of the pathologic involvement, it is necessary to resort to cystoscopy and bilateral catheterization. To the expert cystoscopist, a careful inspection of the bladder, particularly in the region of the ureteric orifices, will convey a great deal of information. Fenwick describes four changes that are visible in the ureteric orifices in the course of urinary tuberculosis, as the result of descending infection; a golf-hole orifice; a displaced orifice; a choked orifice, and a massive edema of the orifice. These have an important bearing on the diagnosis and treatment. Catheterization of the ureters also detects changes in them, such as inflammation and partial or complete stenosis.

I wish to emphasize the necessity of bilateral catheterization in these cases: because, in from ten to forty per cent. of them, both kidneys are tuberculous. It is of especial importance when one is considering the removing of a kidney. Although some object to this procedure, claiming that infection of the sound kidney may be produced by it, I believe that this objection is largely theoretical, as I have observed no untoward effects from it. Certainly, it seems absolutely imperative for us to inquire most carefully into the exact condition of both kidneys.

It is not within the purpose of this article, since it is not a technical one, to give a detailed description of the method of performing cystoscopy and catheterization.

According to Wildholz, the most unimpeachable evidence of the presence of tuberculosis of the kidney consists in a deterioration in the function of the suspected organ. Various functional tests are now popular, such as the phenolsulphonephthalein test of Rowntree and Geraghty, the indigo-carmin test of Voelker, cryoscopy and the phloridzin test. The one upon which I mainly rely is the phenolsulphonephthalein test, used in conjunction with the urea determination. When tubercle bacilli have been found in the mixed urine and one has been unable to localize the disease by means of cystoscopy and ureteral catheterization, a marked diminution in the output of phenolsulphonephthalein on one side points to disease in that kidney. For instance, if one kidney shows an output of from forty to sixty per cent. within the first hour after the administration of the drug, and the other kidney shows a diminution in its output below twenty per cent. it is a safe inference that disease exists in the latter organ. This finding likewise affords marked confirmatory evidence of the existence of renal tuberculosis.

It is my unvarying custom to make both the functional and the quantitative estimation by the phenosulphonephthalein test.

To rely upon it alone, would be a mistake; but when it is used in combination with the output of urea and the clinical signs, it is a valuable aid to both diagnosis and prognosis. It should always be employed before deciding to do a nephrectomy; and I am inclined to believe that the information thus obtained concerning the renal function will largely determine the advisability of the operation.

I am also in the habit of depending upon pyelography and roentgenography as valuable adjuncts to diagnosis. Some, while acknowledging the occasional definite diagnostic value of this method, consider it entirely too risky in renal tuberculosis to be employed as a routine measure. As to its danger, I would state that although I have adopted it in many cases of tuberculosis, covering a period of several years, I have yet to see the first bad result from its use with a careful technic. In regard to its value, some additional light may be thrown upon the subject of the differential diagnosis from conditions that may simulate tuberculosis, such as stone and essential hematuria, by a picture of both the ureter and the pelvis of the kidney, as well as the kidney-substance. While I should hesitate to depend upon pyelography alone in making a diagnosis of tuberculosis of either the kidney or the ureter I consider this procedure of marked confirmatory value, permitting of an exact anatomic orientation of the destructive changes present.

Valuable evidence of the existence of renal tuberculosis that can be secured in no other way may often be obtained from the use of one milligram of tuberculin, which should be administered by the hypodermic method. Following its administration one not in-

frequently notices an increase in renal pain, slight temperaturize and pyuria.

The presence of pain, albumin, pus, occasional hematuria, and urinary frequency, added to the cystoscopic appearance of the ureters and a careful examination of the urine for bacteria, constitute, if no other organisms are discovered, a strong presumptive evidence of the existence of renal tuberculosis, even though no tubercle bacilli are found. One is then justified in making an exploratory incision on the affected side, with a view to finding some evidence of the character of the degeneration of the kidney cortex. It will be remembered that this is where the degeneration first starts.

Should it be absolutely impossible, by reason of stenosis of one or both ureters, to determine with accuracy the functional activity of the kidneys, a good deal of information may be obtained, in the male, by an examination of the epididymis and the prostate; and in either sex, by kidney palpation. Tenderness over the erector spinae, enlarged lymphatics or lung consolidation may be of added value.

The diagnosis of the ascending form of kidney tuberculosis is more readily made, by the history of a nonvenereal epididymitis or prostatitis, or of an unaccounted-for cystitis. In such cases, cystoscopy and a careful catheterization of the segments of the ureter may show a localization of the disease. It is my custom to examine the urine from every six centimeters of the ureter. As before stated, I have, in many instances, been able to detect changes in the ureter by means of pyelography. In the advanced stages of renal tuberculosis, when tubercle bacilli are usually present in the urine, the diagnosis is more readily made. It is diagnosis in the early stages that puzzles one.

The outlook for the cure of tuberculosis of the urinary organs is favorable, when treatment is undertaken sufficiently early in its course, provided that there are no gross lesions of other organs; but if treatment is postponed until the later stages, the prognosis becomes very grave. Spontaneous cure is of very rare occurrence, and no cases showing healed tuberculous foci in the kidney have ever been demonstrated postmortem. Most so-called cases of spontaneous cure are due to obliteration of the ureter, thus walling off the tuberculous focus, or to total destruction of the kidney. In such circumstances, the danger that the other kidney may become infected is very great; for by the time such a condition has been produced, the other side is usually involved. Inasmuch as the changes in the kidney from tuberculosis are progressive, the liquefactive tuberculous process, involving the ureter, sets up an intolerable cystitis, which ascends into the other kidney. In addition to this, tuberculous deposits may be found in the lungs, genitalia and bones. Of course, the prognosis in such cases is grave in propor-

tion to the extent of the involvement. Therefore, it is very unwise to delay treatment in the hope that a spontaneous cure may take place. This being the case, it becomes necessary to consider the method of treatment.

The object of any therapeutic measure must be to assist the functioning power of the cells that constitute the immunizing mechanism of the body. By excising tuberculous tissue, and thus extirpating a major focus of disease, one removes an obstacle to the action of this immunizing mechanism and enables the antibacterial substances contained in the blood to act more efficiently and perhaps to destroy any small remaining foci. Medical treatment with tuberculin and other remedies, aided by proper hygiene and dietetics, may then increase the energy of this immunizing mechanism and prevent the formation of new foci of disease; but most authorities are agreed that such treatment is of very little value until after the diseased kidney, together with the ureter, if necessary, has been excised.

Tuberculin alone has been supposed by some to be able to check the progress of the disease in the early stages, and Keersmæcker has reported in detail twelve most unfavorable cases in which treatment with it produced such an improvement as to cause the symptoms to disappear either nearly or entirely. He is of the opinion that if a cure is not obtained by this means, it is either because the treatment has not been properly administered, or because the patient's other kidney was irretrievably comprised before the beginning of the tuberculin treatment. In spite of this favorable report, however, I am still of the opinion that it is usually better to postpone the use of tuberculin, as well as of other medical and hygienic treatment until a nephrectomy has been performed. All know that these cases often exhibit periods of freedom from symptoms when no effort whatever has been made to check them; and it is unreasonable to expect tuberculin to be able to raise the immunizing power of the blood sufficiently to make the antibacterial substance penetrate considerable masses of caseation and cause their obliteration. Nephrectomy should first be resorted to, and then the tuberculin treatment may be effective in preventing the further spread of the tuberculous process.

The surgical treatment of kidney tuberculosis may be expressed in one word,—nephrectomy. Renal tuberculosis of haematogenous origin, as has been remarked, is usually unilateral at the outset; and it may remain so for quite a length of time. Early operative removal is advisable, therefore; as it greatly lessens the probability of the other kidney's becoming involved. Ascending urogenital tuberculosis offers a more serious prognosis, because the disease is more likely to be bilateral from the start. If there is tuberculous involvement of the genitals, excision of the diseased

area is the proper treatment, which should be combined with the operation upon the kidney, thus ridding the system of many tuberculous foci. It is not uncommon for the surgeon to remove one or both epididymes at one sitting, and to excise the kidney later.

As a rule, nephrectomy should be performed on the diseased side, and ureterostomy for the ascending tubercular ureteritis, thus preventing the migration of the tubercle bacilli to the opposite side. Mayo recommends that instead of removing the ureter, including a part of the bladder, for extensive disease, one should excise only the kidney, together with the upper end of the ureter, and treat the lower end of the ureter and the bladder with a five per cent. solution of carbolic acid.

Of course, there are contraindications for nephrectomy. In the acute miliary form of the disease, it is unjustifiable; and also when the lungs, bones or joints are greatly involved or if there is peritonitis. On the other hand, slight apical involvement, mild manifestations in other organs, quiescent epididymitis or slight periorchitis should not contraindicate this operation. Indeed, it is quite probable that the system may be benefited by this operative procedure. One should remember the words of the elder Keyes, who said that he doubted whether one is ever able, by means of a surgical procedure, to rid the economy entirely of tuberculosis. There are, however, varying degrees of involvement, and it is not against the dictum of modern pathology and surgery to attempt the removal of a tuberculous focus in cases in which this appears to give the patient a better chance for life, enabling the antibacterial elements in the blood to reach the remaining tuberculous foci and destroy them, perhaps with the aid of tuberculin.

The mortality from the surgical treatment of tuberculosis of the kidney, which is from one to six per cent. for the immediate effect of the operation, and fifteen per cent. for the remote result, is not so much due to the nature or gravity of the disease itself as to the lateness and inaccuracy of the diagnosis and the ill-advised and untimely methods of treatment. It has been estimated that nephrectomy saves from death four-fifths of the patients having renal tuberculosis. The prognosis of operative interference is much better in women than in men, according to Vineberg; and nephrectomy is no bar to the bearing of children.

When one contemplates the removal of one kidney, one should endeavor to make certain that the remaining organ is sound. If its functional activity is found to be deficient, one may defer the surgical procedure until one has, by means of hygienic, dietetic and other medical treatment, restored to the slightly impaired kidney the ability to carry on properly its bodily function. It is my experience that patients get along much better with one sound kidney than they do with one diseased organ and one that is bound to

become so eventually, if the affected kidney is allowed to remain. In bilateral involvement of the kidney and in cystitis, the renal function of the better side will determine the advisability of nephrectomy.

The question as to whether one should remove the ureter also or treat it by means of carbolic-acid solution is still *subjudice*. Broadly speaking, I think that it is well to remove the ureter when it is markedly involved, showing ulcerations about its orifice. If there is marked bladder involvement, it is, of course, imperative that the ureter be removed.

Nephrotomy, which is merely a palliative measure, is performed for the purpose of opening large abscesses. It is usually preparatory to a later nephrectomy, for which it cannot be considered as a substitute.

In cases in which both kidneys are involved, it is sometimes justifiable to attempt a conservative operation on one of them. If marked amelioration follows, the other kidney may be either treated in the same way or extirpated.

Inasmuch as this is not a technical article, I have refrained from describing the operative technic. My personal experience with renal tuberculosis has been fairly large, and I have usually been able to make the diagnosis by means of the methods herein mentioned. The cases in which I have performed nephrectomy early have shown the most gratifying results. A number of years have elapsed since the first of these nephrectomies for tuberculosis were performed, and most of the patients upon whom I then operated are still living and clinically well.

As renal tuberculosis is not usually a primary affection, one should consider patients who have been nephrectomized on account of tuberculosis of the kidney as being subjects of latent tuberculosis, and should keep them under supervision and medical treatment. The therapeutic measures at one's disposal include irrigations of the bladder, urinary antiseptics, analgesics, sedatives, hygienic treatment and the use of tuberculin.

Treatment must be directed towards the bladder condition. Most of my cases receive a daily irrigation with bichloride of mercury, 1—50,000 commencing with 30 to 60 c. c. and at each subsequent treatment increasing the amount of fluid and the strength of the solution. Sometimes I employ a six per cent. carbolic-acid solution or a saturated solution of boracic acid. In all circumstances, I inject, after each irrigation, 10 c. c. of a twenty per cent. solution of carbonate of guaiacol and one per cent. iodoform in olive oil. It is remarkable what a beneficial effect this seems to exert on the bladder. By means of these methods, the capacity of the bladder is increased. The urine becomes quite free from pus, blood and debris; and the interval between the acts of micturition is prolonged from two and

a half to three hours. This is true not only of those who have been nephrectomized, but also of those in whom the disease is too far advanced for operative interference. To be sure, the procedure in the latter case is merely palliative; but it is distinctly so. In the former, however, it serves to heal any local lesions that may exist in the bladder.

The local pain may be combated by means of opium suppositories. The yellow oil of sandalwood, potentized tuberculin and bacillinum are also of value. The hygienic treatment is that employed for tuberculosis anywhere in the body. The tuberculin treatment, however, is of occasional value.

Either the method of Trudeau or that of Wright may be employed. In the former, a bouillon supplied from the Saranac Lake Laboratory is used. It is administered once a week, the initial dose being .0005 mgm. This is gradually increased to 50 or 100 mgm., the clinical signs of reaction, local, focal or constitutional, being closely observed. The method of Wright consists in giving an initial dose of bacillary substance varying from 1-50,000 to 1-20,000 mgm.; and in febrile cases, from 1-100,000 to 1-50,000 mgm. The doses are given at weekly intervals, and gradually increased; so that at the end of six months or a year, the dosage may be from 1-1,000 to 1-5,000 mgm. When such symptoms as a slight rise in temperature, frequency of micturition, malaise, headache, nausea or chills occur, one should await spontaneous improvement before resuming the treatment with a considerably smaller dosage.

While this method is to be used principally in advanced cases in which a nephrectomy has been performed, it may produce some improvement in cases when operation has been declined or in which the disease is so far advanced as to make operation useless. In the light of the fact that there have been reported a few cases that have yielded to medical treatment, one has not performed one's entire duty until this treatment has been tried in such cases that are not treated surgically. In the more advanced cases of renal tuberculosis, in which one kidney is absolutely gone and the other shows some evidence of involvement, and in which the epididymes and prostate are also involved, it becomes very difficult to decide between the use of supportive dietetic and hygienic treatment, employing tuberculin, and a palliative operation, such as nephrotomy, with the possible prolongation of life that may result. I have sometimes drained the tuberculous areas in all the organs involved. This, at least, affords temporary relief; and I am not prepared to say that, in any sense, it hastens the end.

## EDITORIAL.

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Books for review, exchanges and contributions—the latter to be contributed to the *GAZETTE* only and preferably to be typewritten—personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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### A GREAT OPPORTUNITY.

An optimist is one who makes an opportunity out of an obstacle. Just now some excellent examples of optimism may be found amongst the homœopathic physicians of Europe. The apparent obstacle is the frightful war, but these men are employing it as an opportunity for demonstrating the efficacy of homœopathic treatment.

That thoroughly alive and efficient organization, the International Homœopathic Congress, has, after the most indefatigable effort, succeeded in establishing in France a thoroughly equipped homœopathic hospital for the treatment, not of the wounded but of the sick soldiers—(*maladies militaires*). It is a lamentable fact, that the soldiers of the allied army suffering from any ailment other than wounds, receive but scant attention from physicians and nurses,—not because of indifference, but rather because of the absolute lack of hospital facilities to give them attention. The result is that thousands of soldiers so afflicted are not only suffering acutely, but through lack of treatment rendered incapable of returning promptly to the ranks.

The International Homœopathic Congress has recognized this deplorable condition and has been making Herculean efforts to establish a homœopathic hospital to cover, in part, just this need. A letter just received from the Vice-President of the Council, Dr. George Burford, contains the cheering news that the hospital is an accomplished fact. It is situated at Neuilly near Paris and is called the "Neuilly Hospital." The hospital has the official recognition of the French Government and military authorities. Furthermore, it has the distinction of being the first military hospital in the war zone to be devoted solely to the interests of the sick, and is the

only hospital that is homœopathic throughout, staffed by homœopathic doctors, its statistics available for homœopathic publication, and, last but not least, officially recognized by the French Red Cross authorities as a *bona fide* Homœopathic Hospital. The only restriction laid upon it by the Government is that it must not be called homœopathic.

The buildings and location are most ideal. The buildings (three) which comprise the hospital were erected especially for a fashionable private hospital. This property is already fitted with forty odd beds, with ample space for more to be added. The buildings are all centrally heated, whilst the grounds are extensive and park-like, with sufficient room to erect temporary hospital sheds should an epidemic make it necessary. The property has been leased by the Council for as long a period as may be necessary.

The hospital is designed to receive the sick from the fighting lines, irrespective of nation or language. It is near the scene of action so that no considerable distance by land or water need be traversed by those seeking the hospital shelter.

Now, friends of Homœopathy, here is one of the greatest opportunities for demonstrating the efficacy of Homœopathy ever offered to our school: an international hospital covering a much needed want and with specific object sanctioned by the military authorities, staffed by able homœopathic physicians, and with its beds filled by patients in whom all the world is interested. Acute diseases such as pneumonia, pleurisy, rheumatism, dysentery, enteric fever, peritonitis, etc., will no doubt be largely in the ascendency. These are just the diseases for which we have long claimed our treatment superior to all others.

While our brother physicians in Europe, especially those of England, will give freely and skilfully of their time in service for this hospital, we of America have our duty also to perform. That duty is, moral and financial backing. This hospital, like all the military hospitals of Europe, needs money, and it needs it badly. Its usefulness will depend largely upon the financial support which it receives.

One of the members of this newly established hospital, in his appeal for funds, says, "It is not as if we asked for subscriptions with which to pay *salaries*. In the Belgian Field Hospital, with which I have worked faithfully, since September 5th, not a surgeon or a nurse (and we have averaged twenty-two nurses right along) has had a dollar of money as salary, nor have we wanted any money personally, but we have had to watch men die for want of peroxide of hydrogen which we had not money enough, at the time, to buy.

"Our Belgian Field Hospital must have handled quite 2,000 of most seriously wounded men, besides many slight wounds we never kept count of in the rush of work.

"Many of us never took off our clothes for days at a time, whilst for months we did not know whether we were going to be shelled out of bed, or merely shelled into the next world. Furnes, where we have been working since the middle of October, has been shelled, in all, about 17 days at odd times, but up to date our hospital has not been hit. I tell you this tough experience to try to give your readers some slight idea that it is no picnic we are engaged in."

Five hundred dollars will maintain a bed in the Neuilly Hospital for a year. Why cannot the New England homœopathic physicians maintain a bed or ward in this hospital and have it known as the "New England Medical Ward"?

The *Gazette* will gladly undertake the collection of this fund if our subscribers show a disposition to endorse such a move. Rarely has there appeared an opportunity wherein the physicians and friends of Homœopathy can do more good with their money than in this double appeal to help the sick soldiers and advance the cause of scientific medicine.

Send your subscriptions to the *New England Medical Gazette*, 80 East Concord St., Boston, Mass., designated "for the Neuilly Hospital." Let us embrace the opportunity promptly.

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## OBITUARY.

### Hiram Luce Chase, M.D.

On April 24, 1914 died at his home in Cambridge, from the infirmities of advanced years, Dr. Hiram Luce Chase. Dr. Chase was born in Boston, May 19, 1825. He was the son of Capt. Constant, and Charlotte (Luce) Chase. Shortly after his birth the family moved to Bristol, R. I. where they remained for a few years. They afterwards returned to Boston. His early education was obtained in Boston. He graduated from the Harvard Medical School in 1846, and practiced in Boston for a year, and then removed to Cambridge, where he remained to the time of his death. He was married on Sept. 25, 1849, to Caroline A. Jones. They had one son, Dr. Herbert A. Chase, now living in Cambridge. Soon after his establishment in Cambridge he became interested in, and adopted Homœopathy. At its founding he became a member of the "Homœopathic Fraternity of Boston" which was the parent of the present Massachusetts Homœopathic Society, and on the establishment of the latter he became a member, and later was chosen its President. He was also for several years a member of the Massachusetts Medical Society, until expelled with other members for being a homœopathist. He was an early member of the American Institute of Homœopathy, and at the time of his death was an honorary President of that institution as the oldest member present. He was affiliated with the Freemasons, and was at one time High Priest of the Cambridge Royal Arch Chapter. He was a follower of the teachings of Swedenborg in his religious belief. His wife died in 1912, and her death was an affliction from which he never fully recovered. Dr. Chase held the respect and esteem of all his colleagues and a large circle of patients. In his death there passed away one of the landmarks of homœopathy in Massachusetts. He was noted for his sterling integrity and his steadfast belief in homœopathy. Certainly if any man ever did, he had the courage of his convictions. May Heaven grant us more like him! E. P. C.

## RECENT DEATHS.

Dr. John H. Urich, class of 1892 B.U.S.M., died at his home, 434 Columbus Ave., Boston, on February 26th, after some weeks of ill health. For several years Dr. Urich had been assistant in the department of diseases of the skin, in Boston University School of Medicine, and in 1911 he was appointed lecturer in the course. Dr. Urich was fifty-three years old and was unmarried.

Dr. Daniel C. Noble of Middlebury, Vermont, class of 1892 N. Y. Hom. Med. College, died at Burlington, Vermont, on January 18 at the age of fifty-two years. He was for ten years health officer of Middlebury, and from 1908 to 1910 was surgeon general of Vermont.

Dr. Amos H. Pierce, for many years a successful practitioner in West Newbury, Massachusetts, died on February 9, of acute heart trouble, at the age of fifty-four years. Dr. Pierce was a graduate of Boston University School of Medicine, class of 1882.

Dr. Nelson L. Dow, (Hahnemann Med. College of Chicago, class of 1887) died on December 1, 1914, at his home in Glover, Vermont, aged fifty-three years.

## SOCIETIES.

**Homœopathic Medical Society of Western Massachusetts.**

The annual meeting of the Homœopathic Medical Society of Western Massachusetts was held on March 17 at Cooley's Hotel, Springfield, Erdix T. Smith, President. The program for the scientific session was as follows:

*Parasyphilitic Diseases and Their Modern Treatment*

By Helmuth Ulrich, M.D.

*The Origin and Conduction of the Cardiac Impulses*

By Conrad Wesselhoeft, 2nd., M.D.

The following officers were elected for the ensuing year:—

*President*, Grace Stevens M.D., Northampton.

*1st Vice-President*, J. W. Crawford, M.D., North Adams.

*2nd Vice-President*, H. C. Cheney, M.D., Palmer.

*Sec'y and Treas.*, M. W. Conrow, M.D., Springfield.

*Censors*, Drs. Erdix T. Smith, Clarice J. Parsons, Elmer H. Copeland.

**Massachusetts Homœopathic Medical Society.**

The Massachusetts Homœopathic Medical Society will celebrate its 75th anniversary by a three-days' meeting on April 12, 13 and 14, following out the following program.—

## PROGRAM.

Monday, April 12, 1915. 10 o'clock.

Surgical Clinic at the Emerson Hospital, Forest Hills St., Jamaica Plain.  
Nathaniel W. Emerson, M.D.

Surgical Clinic at the Forest Hills Hospital, Morton St., Forest Hills. De-  
Witt G. Wilcox, M.D.

9 a.m. to 11 a.m.

Surgical Clinic in Amphitheatre at Massachusetts Homœopathic Hospital.  
Clarence Crane, M.D.; Ralph C. Wiggin, M.D.

11 a.m. to 1 p.m.

Surgical Clinic in Amphitheatre at Massachusetts Homœopathic Hospital.  
Horace Packard, M.D.

10 a.m. to 1 p.m.

Nose and Throat Clinic in Bertram Operating Room at Massachusetts Homœopathic Hospital. Neidhard H. Houghton, M.D.; Conrad Smith, M.D.; Elmer R. Johnson, M.D.; Charles W. Bush, M.D.

10 a.m. to 1 p.m.

Medical Clinic in the Wards of the Massachusetts Homœopathic Hospital.  
Edward E. Allen, M.D.; Wesley T. Lee, M.D.

1 p.m. to 2 p.m.

Luncheon

2 p.m. to 4.30 p.m.

In the Auditorium of the Evans Memorial Building of the Massachusetts Homœopathic Hospital, the following papers:

Paper. (Illustrated.) Orville R. Chadwell, M.D., assisted by Gardner H. Osgood, M.D.

Paper. (Illustrated.) J. Arnold Rockwell, M.D., assisted by Gardner H. Osgood, M.D.; Edwin W. Smith, M.D.

8 p.m.

At the Boston Art Club. Reception of members of the society and guests by former presidents of the society.

Program.

Tuesday, April 13, 1915.

Surgical Clinic at the Emerson Hospital, Forest Hills St., Jamaica Plain. Nathaniel W. Emerson, M.D.

Surgical Clinic at the Forest Hills Hospital, Morton St., Forest Hills. Alonzo J. Shadman, M.D.

9 a.m. to 12 m.

Orthopedic Clinic in Graten Operating Room at the Massachusetts Homœopathic Hospital. Alonzo G. Howard, M.D.

10 a.m. to 12 m.

Eye Clinic in Bertram Operating Room at the Massachusetts Homœopathic Hospital. David W. Wells, M.D.

9 a.m. to 11 a.m.

Surgical Clinic in Amphitheatre at Massachusetts Homœopathic Hospital. George R. Southwick, M.D.

11 a.m. to 1 p.m.

Surgical Clinic in Amphitheatre at Massachusetts Homœopathic Hospital. J. Emmons Briggs, M.D.

1 p.m. to 2 p.m.

Luncheon

2 p.m. to 4.30 p.m.

In Auditorium of Evans Memorial Building of the Massachusetts Homœopathic Hospital, papers will be presented by those who have been active in research work at this building.

8 p.m.

Entertainment under the auspices of the Boston District of the Society.

Program.

Wednesday, April 14, 1915.

Surgical Clinic at the Emerson Hospital, Forest Hills St., Jamaica Plain. Nathaniel W. Emerson, M.D.

Surgical Clinic at the Forest Hills Hospital, Morton St., Forest Hills.

9 a.m. to 11 a.m.

Surgical Clinic in Amphitheatre at Massachusetts Homœopathic Hospital. Charles T. Howard, M.D.

11 a.m. to 1 p.m.

Surgical Clinic in Amphitheatre at Massachusetts Homœopathic Hospital. William F. Wesselhoeft, M.D.

10 a.m.

Ear Clinic in Bertram Operating Room at Massachusetts Homœopathic Hospital. Fred C. Colburn, M.D.; Harold L. Babcock, M.D.

1 p.m.

Luncheon.

1.30 p.m.

Business Session, in the Auditorium of the Evans Memorial Building.  
(a) Reading of Records of the Last Meeting. (b) Reports of Treas-

urer and Auditor. (c) Unfinished business. (d) New business, annual appointment to the Fund Committee by the President. (e) Report of Committees: Fund, George B. Rice, M.D.; Legislation, N. Emmons Paine, M.D.; Registration and Statistics, Wesley T. Lee, M.D.; Election, Anton R. Fried, M.D. (f) Report of Necrologist, Frank A. Gardner, M.D. (g) Reception of Delegates from other societies. (h) Ballot for the following named candidate for membership in the Society, approved by the Board of Censors. Frederick W. Derby, M.D., Arlington.

2.15 p.m. to 4.30 p.m.

Nervous Clinic. Ernest W. Jordan, M.D.

Paper (Illustrated.) The Recognition of Rational Treatment in the Care of Weak and Flat Feet. Gilbert M. Mason, M.D.,  
Discussed by: Alonzo G. Howard, M.D.; E. R. Burt, M.D.; W. R. MacAusland, M.D.

Paper. William H. Watters.

7 p.m.

Annual Banquet at Young's Hotel.

8 p.m.

Address by the President, Thomas E. Chandler, M.D.

Annual Oration, John L. Coffin, M. D.

Owing to the limited capacity of the operating rooms, it will be necessary to restrict the number of persons attending some of the clinics. Members and guests are therefore requested to register at the Evans Memorial Building and obtain tickets for the various clinics.

A bulletin will be kept at the Evans Building posting clinics by the obstetrical staff, and other clinics which must necessarily be given when opportunity offers.

Members are reminded that all papers presented at the meetings of the society become its property and must be left with the secretary at the meeting.

THOMAS E. CHANDLER, M.D.,

CHARLES T. HOWARD, M.D.,

WESLEY T. LEE, M.D.,

PLUMB BROWN, M.D.,

EDWARD S. CALDERWOOD, M.D.,

Committee of Arrangements.

### **Boston District of the Massachusetts Homœopathic Medical Society.**

By reason of the close occurrence of the dates of meeting of the Boston District Society and of the annual meeting of the State Society and by reason of the length and unusual interest of the meetings of the latter, it has been decided to omit the usual session of the Boston District Society scheduled for April 1st. The next meeting of that society will be held, therefore, May 6, the program to be announced later.

F. W. COLBURN, M.D., President.

H. E. DIEHL, M.D., Secretary.

## HOUSE BILL NO. 1292.

Bill accompanying the petition of the Massachusetts Undertakers' Association that the number of medical examiners in the County of Suffolk be increased. Public Health. January 21.

## THE COMMONWEALTH OF MASSACHUSETTS.

## AN ACT

To increase the number of Medical Examiners in the County of Suffolk and to fix their Tenure of Office.

*Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:*

SECTION 1. On the first day of May, nineteen hundred and fifteen, or as soon thereafter as possible, the governor shall, with the advice and consent of the council, appoint four able and discreet men learned in the practice of medicine to be medical examiners of Suffolk county, one for a term of four years, one for a term of three years, one for a term of two years, and one for a term of one year, said terms to run from the said May first, nineteen hundred and fifteen; and thereafter, at the expiration of the term of each appointment, their respective successors shall be appointed for a term of four years. One of the medical examiners so appointed shall be designated as the chief medical examiner, and the salary of each shall be four thousand dollars per annum, except that of the chief medical examiner, which shall be four thousand five hundred dollars per annum. The terms of office of the present medical examiners and associate medical examiners of Suffolk county shall expire upon the appointment and qualification of the medical examiners above authorized.

SECTION 2. The office headquarters of the medical examiners' department shall be suitably and centrally located in a building to be designated by the county commissioners of Suffolk county, where all medical, clerical and other assistants required by the medical examiners' department shall be assembled for administration purposes.

SECTION 3. No medical examiner whose appointment is authorized under the provisions of this act shall accept employment from any public service corporation, insurance company or any other business concern.

SECTION 4. All fees authorized to be collected under the provisions of chapter twenty-four and acts in amendment of or addition thereto, shall be paid into the treasury of Suffolk county and there credited to the appropriation for the medical examiners' department. There shall be allowed a sum not exceeding twelve hundred dollars per annum for travelling expenses of each medical examiner.

SECTION 5. Each medical examiner shall be allowed not exceeding thirty days for vacation in each year, and all vacations shall be so arranged that there shall be in constant attendance three medical examiners. Outside of the period allowed for vacation, no medical examiner shall absent himself from Suffolk county without permission being granted in writing by the county commissioners or the mayor, and in case such leave shall be granted, no compensation shall be allowed for the period covered by such leave unless especially provided for by the county commissioners and approved by the mayor.

SECTION 6. Wherever the words "death by violence" appear in chapter twenty-four of the Revised Laws, or any acts in amendment of or addition thereto, it shall be defined and understood to be death by criminal violence.

SECTION 7. All acts and parts of acts inconsistent with this act are hereby repealed.

SECTION 8. This act shall take effect upon its passage.

## LETTER FROM THE SECRETARY OF HEALTH DEPARTMENT OF BOSTON.

Boston, February 18, 1915.

Dear Doctor:

I am directed by the Board of Health to call to your attention the necessity for the prompt administration of antitoxin in cases of diphtheria.

Several deaths among children in this city have recently occurred, evidently on account of neglect of this important precaution.

Laboratory diagnosis of the disease, while important, should not, when negative, be relied upon, against contrary clinical evidence.

In laryngeal cases, for obvious reasons, a laboratory diagnosis is often impossible, and a negative laboratory report is never conclusive, since so many factors are to be considered, such as failure to reach infected area by swab, overgrowth of infecting organisms by other bacteria, etc.

At a meeting of the Board of Health held this day, the following procedure for the use of antitoxin in the treatment of diphtheria was approved and is hereby recommended to the physicians of the city:

*First.*—That antitoxin be used at the earliest possible moment in all cases of real and suspected diphtheria, without waiting for the bacteriological examination of culture.

*Second.*—That antitoxin be administered under strict surgical asepsis.

*Third.*—That Schick's method of dosage be followed, *i.e.*,

*A.* In mild and medium cases of diphtheria a single dose of 100 units of antitoxin per kilogram of body weight should be used. Thus a child weighing 20 kilograms (44 pounds) should get a minimum dose of 2,000 units of antitoxin in one injection.

*B.* In severe cases of diphtheria, 500 units of antitoxin per kilogram should be injected. Thus a child weighing 20 kilograms (44 pounds) should, in severe cases, get a single dose of 10,000 units of antitoxin.

*Fourth.*—That immunizing doses for those exposed to diphtheria and not showing clinical or bacteriological signs of the disease be based on 25 units of antitoxin per kilogram of body weight.

*Fifth.*—That it is further recommended to consider all cases of croupy breathing in children, which continues six hours or more, as severe cases of diphtheria, *i.e.*, laryngeal diphtheria, regardless of other clinical signs, or bacteriological examinations. These cases should be treated in the manner above described for severe cases and should be intubated within 24 hours from time of use of antitoxin unless marked improvement in breathing is noticed.

*Sixth.*—That single maximum doses as above described are far more efficacious than repeated doses of less potency, and therefore should be given in this way, and that the practice of giving repeated injections of smaller doses should be abandoned.

Very truly yours,

F. H. SLACK, Secretary.

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## ASSISTANT WANTED ON LABRADOR COAST.

An excellent opportunity is now available for one Assistant to be associated with Dr. Wilfred T. Grenfell in his medical work on the Labrador Coast during the coming summer months. Preference will be given to a graduate from a hospital service. For particulars with reference to this appointment communicate with Dr. W. R. MacAusland, 240 Newbury St., or Miss E. E. White, 14 Beacon St., Boston.

It will be necessary to make immediate application as the appointment is to be made very soon.

## PERSONAL AND GENERAL ITEMS.

Dr. Frederick L. Emerson (class of '92 B.U.S.M.) has resumed his Boston and Dorchester practice after several weeks of illness and a period of recuperation at Battle Creek Sanitarium.

Dr. J. Walter Schirmer of Needham has opened an office for the practice of orthopedics at 272 Newbury St., Boston. Office hours by appointment.

The *Gazette* extends its sympathy to Dr. George A. Folger (class of 1911 B.U.S.M.) of Allston, who has been obliged on account of ill health to give up practice and go to Florida. He expects to go later to Arizona for an indefinite stay.

The Gregory Society of Boston University School of Medicine sends its thanks to the Faculty and friends who responded so generously in buying tickets and otherwise helping in the success of the entertainment for raising funds for the "District babies" given in the School amphitheatre on the evening of March 9. The program was a most enjoyable one and the audience numerous and appreciative. All talent was contributed, and the net proceeds were about one hundred dollars.

Dr. Harry A. Watts, for some years in practice in California, and later in Chicago, has removed to Kaulback Building, Malden, Mass.

Dr. George H. Martin (class of 1881 B.U.S.M.) has removed from San Francisco to Altadena, Southern California.

Dr. Louis Salvin, B.U.S.M. 1914, has opened an office at 49 Intervale St., Roxbury, Mass.

Dr. George F. Worcester, class of 1914 B.U.S.M., has located at Merrimac, Massachusetts.

**PRACTICE FOR SALE.**—Within ten miles of Boston, a \$7000 practice for sale. Fine location in residential town. A great opportunity for the right man. Apply to "Business Manager," *New England Medical Gazette*, 80 East Concord St., Boston.

Dr. Effie Allyne Stevenson, class of 1897 B.U.S.M., is at present assistant physician at Dr. Givens' Sanitarium at Stamford, Connecticut.

Dr. Grace D. Reed, B.U.S.M. 1914, having finished her six-months' service at Wellesley Nervine (Dr. Edward H. Wiswall's), is now taking a four-months' service in the Maternity Department of the New England Hospital for Women and Children, on Dimock Street, Roxbury.

The U. S. Civil Service Commission announces an open competitive examination for mine surgeon (male), to fill a vacancy in the Bureau of Mines, Pittsburgh, Pa.

The duties of the position will be to travel with Bureau of Mines rescue cars and make physical examination of all applicants for first-aid and mine-rescue training; to enter mines after fires and explosions for the purpose of taking blood samples and making other physical examinations of victims before their removal; etc., etc.

For further information apply to the Civil Service Commission, Washington, D. C. Applicants must be under forty-five years of age and be citizens of the United States.

Dr. H. H. Plumer of Union, Maine, President of the Maine Homœopathic Medical Society, would be glad to put the right men in touch with several promising locations for homœopathic physicians in the State of Maine.

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### Interne Wanted for Newton Hospital.

There is call for one house officer for Newton Hospital for service beginning October 1, one year. He must be a graduate and unmarried.

For information address Dr. George B. May, 661 Commonwealth Avenue, Newton Centre, Mass.

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### Summer Cottages for Rent for Season of 1915.

TO LET.—At Waterville, New Hampshire, in the midst of the beautiful Franconia mountains, a large, delightfully situated summer home with broad piazzas; a splendid outlook over the famous Waterville Valley. House contains a large living room with open fire-place, an adjoining music room with piano, bookcase and bay window with cushioned seat. Living-room opens onto a large screened-in porch, also furnished. There are eight bedrooms, one with open fire-place; bath, kitchen and maid's room. The entire house is fully furnished, and the many windows command beautiful views of valley and mountains. An ideal place for mountain lovers and climbers, with plenty of easy walks; miles of blazed trails and paths. Golf links and tennis courts. Board at quiet hotel near by (the only one).

For further particulars address "C. R. W.," care of *New England Medical Gazette*, 80 East Concord St., Boston.

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TO LET.—An attractive summer cottage in Southern New Hampshire to be let for the season. Accommodates six persons. Five comfortably furnished rooms, with one extra unfinished room. Excellent well water. Use of double tennis court. Vegetables, milk and eggs from near-by farm. Trout fishing. Two hours from Boston on Worcester & Nashua R.R. One acre of land; some garden produce from the place. One mile from station. Stage to Dover (five miles) passes door. High location. One hundred dollars for the season. Address "E. S. J.," care of *New England Medical Gazette*, 80 East Concord St., Boston.

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### DOUBLE SERVICE TIRES ARE MOST RELIABLE.

The fact that an automobile tire can be depended upon to give constant service without the general troubles common to most tires make it especially desirable. The greatest tire trouble comes from punctures and the most of these are caused by tacks, small nails, and similar objects. With the *Double Service Tires* these troubles are banished as the tread of these is so thick in fabric and rubber that these small objects cannot penetrate through and reach the tube. This double tread naturally gives twice the service and therefore the tires bear the guarantee of 7000 miles against that of 3500 miles on the regular constructed standard tires. They carry the same air pressure as all other pneumatic tires and ride as easily. The prices of *Double Service Tires* are even lower than all other makes as will be seen from the price list published in this paper.

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS.

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### THE INCREASING ROLE OF THE STREPTOCOCCUS IN PATHOLOGY: THE STREPTOCOCCOSES.

By RALPH R. MELLON, M.Sc., M.D., Asst. Professor of Physical Diagnosis,  
and Director of the Laboratory of Clinical Pathology,  
Homœopathy Dept., University of Michigan.

Since its discovery by Koch and Fehleisen in 1882, the streptococcus pyogenes has been identified as a causative factor in a large number of pathological conditions. However, these were all of the fulminating type, and it is only in recent years that we have begun to learn that it may be of paramount importance in many of the subacute and chronic conditions. The reasons for disregarding it where more attention should have been given are many. Prominent among these are its ubiquity and its susceptibility to the slightest change in its environment. For example, some member of this great family of organisms is found almost constantly in the mouth, the throat and tonsillar crypts, the intestinal and genito-urinary tracts. It was only natural to infer that such varieties were entirely harmless or else they were modified forms of ones previously pathogenic.

The etiologic relation of streptococci to erysipelas, puerperal sepsis, acute peritonitis, impetigo, broncho-pneumonia, tonsillitis, meningitis, pleurisy, empyema, otitis media, and phlegmonous inflammations following wound infections is quite well known. Likewise, its association with scarlet fever, measles, diphtheria, small pox, and pulmonary tuberculosis are also well recognized.<sup>1</sup>

There are other conditions which can no longer be doubted as of having a common origin with the above list. Some of the acute and chronic arthritides, progressive secondary anæmias, endocarditis, myocarditis, pericarditis, chorea, some cases of acute and subacute nephritis, erythema nodosum, muscular rheumatism, certain cases of thrombosis, and oral sepsis constitute a very formidable group.

For a great many years, the etiology of acute rheumatic fever has been in dispute. Its relation to tonsillar infection was advanced by Lasaque and other French writers a very long time ago. Mantle in 1887 obtained a micrococcus from the blood and joint exudate. Poynton and Payne, Walker and many others have isolated the so-called diplococcus rheumaticus from the joints, blood and endocardial vegetations and have reproduced similar changes in as many locations in animals.

But there have always been two difficulties to an absolute proof that this condition belonged to the streptococcoses. In the first place, the organisms isolated from the joints have not always been cocci, and in the second place, the relation of the discovered diplococci to the streptococcus family was not clearly established. Experimental intertransmutation (if confirmed) of the many varieties of this organism will have done much to clear up the situation. So in reality, while many organisms of diverse nomenclature have been introduced into the literature it is no longer to be doubted that they should be properly interpreted as modifications of the streptococcus. Such terms as "micrococcus rheumaticus" as well as many others should be discarded, as they are only a source of confusion. The true biological nomenclature should be substituted, *viz.*: the streptococcus hemolyticus, streptococcus mucosus, and streptococcus viridans. They have a definite meaning, and with limitations, cause conditions of fairly definite pathology.

That the wonderful lability of this organism should have been recognized long ago, there is no doubt. Ever since different strains of it have been connected etiologically with different conditions, the transmutation idea has been received with frowns. This, despite the fact that the ordinary *S. pyogenes* could be made experimentally, under the proper conditions to produce typical erysipelas in the rabbit, and those isolated from a septicemia could be made to produce joint lesions, etc. The very convincing work of Rosenow<sup>2</sup>, if it can be confirmed, goes farther to demonstrate its lability than any work done up to this time. He is able to convert the streptococcus viridans into the hemolyticus by cultivating it in symbiosis with the *B. subtilis*. His transmutation of the streptococcus and pneumococcus is much more remarkable. In addition, he claims to be able to experimentally vary the organ specificity of these varieties. Given in pure culture, or when mixed, the *S. viridans* and the *S. hemolyticus* seek out the tissues for which they have an affinity; with the former, the heart valves suffer, but the latter is partial to the joints.

Although it has long been known that the streptococcus occurs in the body in pairs, it has long been a source of confusion to some workers. Rosenow again lays emphasis on this point, and in the University Homœopathic Observer<sup>3</sup>, I have published a

series of about 75 cases in which I made it one of the important issues. Most of the diplococci, although occurring in masses in smears, readily grew in chains when transplanted to bouillon. Curtis<sup>4</sup> has laid stress on the same point in regard to vaginal diplococci. So it behooves everyone to interpret properly diplococci; no difference whether found in the skin, on the mucosa, or in the blood, or organs.

Whether viewed from the standpoint of the diagnostician, the therapist, or the experimental worker in bacteriology and pathology, acute rheumatic fever must be considered as of streptococcic origin.

Another condition which has been even more of a bugbear to the diagnostician is arthritis deformans. For many years it has been considered as a neurosis; and as a constitutional condition associated with gout, but such a hypothesis has but scant foundation at present. In the first place, arthritis deformans, so called, is merely a clinical designation, including arthritides of a chronic or relapsing type, associated often with atrophic changes in the ends of the bones, hyperplasia of the periarticular tissues, and with atrophy and contraction of the soft tissues connected with the joint. Etiologically, such changes may be produced by several infections. But this condition can no longer be considered as a disease entity with a single etiology. It must be viewed as a chronic arthritis with deforming changes, but of a diverse etiology. When the relation of the gonococcus was established, whether the lesion was deforming or not, the condition was properly called gonorrhœal arthritis.

Tuberculous arthritis was formerly included in this group, but since the agency of the tubercle bacillus has been proven, it can no longer be so considered. Chronic streptococcic arthritis will now be applicable to a large group of cases. So this heterogeneous group, styled "arthritis deformans" is constantly lessening, as the specific causes for it are brought to light. These are probably not exhausted, but the group of cases remaining after lopping off the gonorrhœal, tubercular, syphilitic and streptococcic is relatively small. So the term "deforming" may apply to any arthritis case, but its application should indicate chronicity or severity, and not necessarily be connected with the etiology.

Lately much experimental and clinical evidence has been adduced by Rosenow and Billings<sup>5</sup>, Davis and their co-workers of Chicago as well as others. During the course of the experimental work in connection with the epidemic of sore throat by the above mentioned authors, many cases of protracted multiple arthritis were produced in animals by the streptococcus, which resembled closely that which occurs in man. Then by the isolation and re-injection of organisms from the periarticular tissues of patients

suffering from arthritis deformans, as well as from the experimental animals, the conditions were again reproduced.

Another fact which is evidence for this view lies in the streptococcus sensitization which most patients with joint lesions show. A very small dose of the organism is sufficient to give local and focal reactions which are often severe. This feature was suggested by Irons and others as a differential diagnostic measure for gonorrhœal arthritis and has since been noted by Davis and myself and no doubt others, in connection with chronic streptococcic arthritis.

Again, the removal of the offending focus of infection often removes or arrests the progress of the arthritic symptoms. Anyone who has worked with such cases, has no doubt, recorded in his memory or his case book instances which show striking benefit and often complete cure from tonsil enucleation. Likewise, he knows of such cases who have not been benefited at all. So although the direction seems proper, it may have many ramifications. Then it is not always possible to remove foci of infection even though we do succeed in locating them. The gall bladder, the appendix, the tonsils and the prostate are some of the most accessible locations, while the heart valves, the kidneys, and the lungs are for the most part out of our reach. Billings<sup>6</sup> reports an interesting series of cases in the Archives of Internal Medicine. Autostreptococcic serum is without avail in these cases, and autogenous vaccines as they are now prepared are not much better. If we are able to produce a streptococcus with good immunizing power we may get some fairly good results in some cases. But any therapy of vaccine nature will depend on the development of vaccines with the toxic group eliminated. Besredka's<sup>7</sup> sensitized living organisms, or Gay's<sup>8</sup> sensitized killed sediments are worthy a trial in this condition.

I wish to call attention to the possible relation of some of the severe anæmias to this form of infection. It is becoming better recognized every day that there is a severe progressive secondary anæmia with blood signs almost like those of pernicious anæmia which gives rich promise of an infectious etiology. As early as 25 years ago, Sir Wm. Hunter<sup>9</sup>, the English pathologist, called attention to the possible relation of oral sepsis and a hemolytic secondary anæmia. For at least ten years, his articles in this connection have appeared in "The Practitioner," although the profession has been slow to take up with his views. In his last article, he ascribes most of the oral sepsis to the streptococcus. Allen of London finds this organism present in pure culture in all the early cases of pyorrhœa alveolaris, although it may be complicated later with other organisms.

Osler<sup>10</sup> has noted the relation of decided pyorrhœa in some-

thing like 50 per cent of his last 22 cases. Personally, I have seen it in eight out of fourteen cases. I have one case at present whom I have traced through seven of the remissions so characteristic of this condition. He has many gold crowns on his teeth, and his gums are in a very unhealthy condition, which gives him a foul breath.

For some time, it has been known that acute chorea has been very closely associated with some of the acute infections, and the vast majority of those infections are streptococcic. Rheumatic arthritis has been observed in about twenty per cent of the cases in which attention has been directed to this feature. Endocarditis is the constant finding in this condition, and occurs more often than in any other disease, not excepting rheumatism.\*

What has already been said regarding the etiology of rheumatic fever and tonsillitis can be said also of puerperal fever and of the sequelæ of scarlet fever. The not infrequent cutaneous complications of chorea harmonize well with the view that it has a streptococcic origin. Erythema nodosum, urticaria, and Schönlein's peliosis rheumatica are very suspiciously streptococcic. More will be said later regarding these conditions.

In the few fatal cases of chorea which have come to autopsy, the micrococci have been isolated from the meninges, cerebro-spinal fluid and brain. Inoculation of these cocci into rabbits have developed muscular twitching with concomitant arthritis and endocarditis.<sup>12</sup> Since chorea is an involvement of the highest nerve centers, it would be impossible to reproduce it precisely in animals, but the causation of reflex spasm is interesting.

Although we know little that is definite about nephritis, there is a growing sentiment among careful observers that certain forms, at least, have an intimate connection with this organism. Billings in his article on the focal infections describes several cases which form evidence for this view. Much work remains to be done on the hemic infections of the kidney, and ureteral catheterization combined with the improved bacteriological methods in vogue forms one avenue of approach to this difficult question. The observations of Albarran<sup>13</sup> regarding the activity of the streptococcus and colon bacillus is interesting in this connection. And in addition, it has recently been demonstrated that the renal passive congestions almost always caused focal bacterial lesions when organisms were present in the blood.<sup>14</sup> Certainly such advances should be a stimulus for careful investigations of cyclic albuminurias, and those due to vasomotor instability and the like.

I have a case under observation at the present time

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\* It should be pointed out in this connection, as is done by Osler<sup>11</sup> that many conditions have been confused with true chorea, *viz.*: pandemic chorea, which is but a form of religious hysteria; habit spasm; convulsive tic; saltatory spasm; Huntington's chorea, and rhythmic or hysterical chorea.

which presents features of unusual interest. A boy of eight years, without history of previous infection excepting an attack of measles at four years of age, developed puffiness under the eyes, which failed to yield to ordinary hygienic measures. The condition grew progressively worse and a urinalysis showed 2 per cent of albumin by weight with numerous hyalin and granular casts. The sample was obtained under aseptic conditions, and showed a pure culture of the diplococcus, which grew in short chains in beef tea. Intravenous injection of the contents of an agar slant into a rabbit developed an albuminuria and slight rise of temperature.

Cunningham<sup>15</sup> in the "Journal of the American Medical Association" of January 18, 1915, writes interestingly on hematogenous renal infections and gives evidence to show that many cases of the so-called traumatic hematuria develop infection. In the same journal, the interfunctional relation of the retrovesical valve and the prostatic action of the ureter is experimentally pointed out. The partial inhibition of these functions in the majority of cases gives rise to pyo-nephritis.<sup>16</sup>

Since the etiology of epidemic tonsillitis is a settled thing, it is not difficult to account for erythema nodosum. Saboroud<sup>17</sup> relates a case in which its infectious character was demonstrated. "In 1892 I observed with Orillard a case, which, up to the present time, remains unique. A cook was supposed to be stung on the thumb by a fly. Lymphangitic œdema followed, with progressive general phenomena. Then on different parts of the body, but chiefly on the affected arm, appeared a number of red, painful nodosities, about the size of a nut. There were no bullous lesions.

The general symptoms became grave; hyperpyrexia, prostration, coma and death two days after admission to the hospital. The autopsy showed that each swelling was centered by an enormously dilated and thrombosed vein. The thrombosis was constituted by a compact colony of streptococci. I have already spoken of the relation of this condition to chorea, and it is not infrequently a symptom of cerebro-spinal fever.

There are other conditions like Schönlein's disease, or the modified Hennek's purpura which give evidence of being streptococcoses, as well as many others like the intertrigos and impetigos, a citation of which would be as a mere multiplication of examples.

The relation of the streptococcus to thrombosis and embolism is interesting, and serves as a possible explanation of facts which we have long known. For example, acute rheumatic fever with endocardial lesions is a disease of adolescence, and it exerts its most damaging effects at that time. Exacerbations at this period are usually serious, and are easily provoked. After one is past

thirty, recurrence is much more rare. We know that the heart valves are more vascular in the young, and that the streptococci are easily detained by the very small vessels whose endothelial walls they attack. An embolus results, which forms a focus of infection from which the organisms gain access to the contiguous tissues. As the patient advances in years, the valves become less vascular, and hence are less subject to attack.\* The pathology of streptococcic arthritis is quite similar. The case cited from Sabaroud† is interesting in connection with thrombosis. Focal necrosis of the heart muscle in acute rheumatic fever are likewise the result of thrombosis and embolism. In Libman's series of 13 cases of lateral sinus thrombosis, the streptococcus was the cause in ten. In arthritic purpura (Schöenlein's Disease) thrombosis is often present, giving rise to the nodular infiltrations, distinguished with difficulty from erythema nodosum. This is another condition which is suspiciously streptococcic. It begins with a sore throat, which is soon followed by articular involvement, and only differs from acute rheumatic fever by the presence of the cutaneous symptoms. But here no hard and fast line can be drawn, as some cases of acute rheumatic fever have cutaneous symptoms.

As it appears at the present time, the streptococcus family has few rivals in the almost unlimited biological variations which it may undergo. As a result, we are constantly confronted by the consequent pathological conditions, varying all the way from the slow indolent inflammations which give rise to few symptoms or none at all, to the most virulent septicemias which cause extensive and profound alteration of the organs, and rapid exhaustion of the vital forces.

Clinically, the tendency to recur has been a striking and interesting feature of the streptococcus. In some cases, erysipelas has returned from ten to twelve times and has been called recurrent erysipelas. An experiment of Koch is interesting in showing that streptococcic immunity is, at the best, short-lived. He inoculated cutaneously a man suffering from a malignant tumor with a streptococcus obtained from erysipelas. "He developed a moderately severe attack which lasted about ten days. On its subsidence, they reinoculated him; a new attack developed which ran the same course and over the same area. This was repeated ten times with the same results. This experiment proved that in this case, at

\* We have always attempted to account for the exacerbation of our cases of mitral disease by the theory that the patient must have done something violent to strain his heart. Although some cases give a history of such indiscretion, by no means can it be said to be true of all. Usually the patients have fever, and a differential blood count commonly reveals a polymorphleucocytosis. When one considers the focal lesions produced embolically in the heart valves, it is easy to conceive that these latent areas may suddenly become active, under influences not at all violent. Any of the indiscretions by which the body resistance is lowered might easily activate these slumbering foci.

† loc. cit.

least, little if any lasting curative or immunizing substances were produced by repeated attacks of erysipelas, and that recovery from each attack was due to the local and transitory protective developments." <sup>18</sup>

Vaughan's <sup>19</sup> theory of protein sensitization seems adequately to explain this phenomenon. Davis <sup>20</sup> attempts to make use of a specific anaphylactic reaction in preparation of some of the different strains in sore throat, but the group specificity is the only kind that he succeeds in demonstrating.

I have by no means exhausted the list of conditions in which this very labile organism may play a part: but I have endeavored to show that its pathological activity is enormous, and considering the tendency for these conditions to recur, I see no reason why it should not be placed on a pathological par with the tubercle bacillus, the spirochæte pallida, and the gonococcus.

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## ABDERHALDEN'S TEST FOR DEFENSIVE PROTEOLYSINS IN THE BLOOD.\*

By HELMUTH ULRICH, M.D., Boston.

Every living body cell requires food, which it digests and appropriates wholly or in part; every living body cell excretes waste, and many, if not all, secrete substances that are useful somewhere in that intricate cell community, the human body. This activity of the cell is its life.

It is assumed that during normal cell life the catabolic excretion products and the cellular secretions vary not at all, or only to a negligible degree, at least in a qualitative sense. That is to say, a normally functioning cell whose food supply is constant in kind and amount, will always excrete the same substances. This waste material is carried to the organs of waste elimination by the blood which, of necessity, always contains a large amount of it, so that the cells throughout the body, bathed in blood plasma (lymph), are constantly exposed to the catabolic waste of other cells, without apparently being affected by it. It may be that the end products of normal metabolism are in themselves non-toxic to cytoplasm; again, it is possible that there is a protective agent in the blood stream, elaborated and sent out by the exposed cells themselves to strip the rejected material of its cytotoxic dangers.

These cell protectors, call them ferments, antibodies, immune bodies, what you will, must have been produced by the cells from the very beginning of the individual's life; because the parent cells whose union constituted the inception of the new existence, were manufacturing their own protective substances at that time, unless they are unreasonably assumed to have depended upon their neighbors to perform this function for them. This self-protection against normal metabolic waste, then, is an inherited, habitual, daily routine function of every normal cell.

What, if the products of catabolism are not normal? There may be diseased cells somewhere in the body whose normal activity is disturbed to such a degree that they give off material that is strange and foreign to the other cells, and at the same time detrimental to their health. The healthy cells must either defend themselves or succumb. Their only defense lies in the production of suitable protective material, similar, perhaps, to that sent out against normal cell excretion, to counteract this new pernicious influence.

How does the excretion of diseased cells differ from that of normal ones? To attempt an answer to this question it is necessary to know something about normal cell metabolism. A normal

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\* Read before the Alethean Club of Boston, Jan. 15, 1915.

cell takes its food from the plasma-lymph. That food, however, cannot be utilized immediately by the cell, but must first be broken down into simpler substances and then re-synthesized and re-arranged to conform with the material of which the protoplasm of this particular cell is composed. This construction (anabolism) from new material requires a balancing destruction (catabolism) and elimination of matter which has served its end and is no longer of use to the cell. Contrary to anabolism which builds up the complex from the simpler, catabolism resolves complex cytoplasmic material into its simpler components.

It must not be thought, however, that this tearing down is a single or simple chemical operation. There are many intermediate steps, and, although in a general way the substances formed at each stage are, no doubt, simpler than those from which they came, there is little question that many of them are re-synthesized and, possibly, again split until the desired result is obtained. When this point, presumably definite and specific for each group of like cells, is reached; that is, when the useless complex cytoplasmic material is reduced to a definite simpler compound, this is ejected by the cell into the plasma-lymph. The end product of normal cellular metabolism, then, is of a definite composition, and its elimination from the cell occurs at a definite stage of catabolic activity.

A diseased cell loses its power to control the point at which waste elimination occurs. The breaking down of the waste may go on beyond the normal point, or it may be interrupted by the elimination of material before it is ready. Consequently, the metabolic end product of a diseased cell comprises substances that are higher in the scale of structural complexity than they should be at the time of excretion; that is, substances which have not yet been resolved into those simpler compounds as which they were destined to be excreted.

To these new and "plasma-foreign" influences the cell replies by the production of new protective ferments whose special function it is to divest the new material of its dangers or, if it is not toxic, to reduce it to simpler substances preparatory to its final excretion from the body.

Aside from a difference in degree of structural complexity, the elimination products of normal and abnormal cells are, presumably, unlike each other in at least one other way. The excretion of a normal cell has been reduced to such an extent that it no longer bears any specific resemblance to the protoplasm of the cell from which it came; on the contrary, it is very much like the normal waste of any other cell in the body. The prematurely ejected waste material of a diseased cell, on the other hand, has not yet been reduced to the final non-specific normal metabolic end products, and possesses, therefore, properties that are still dis-

tinctly peculiar and specific to the cytoplasm of its parent cell. Thus, a diseased renal cell will excrete compounds which resemble in their characteristics renal cytoplasm, but not hepatic or any other cytoplasm. In other words, the catabolic waste of a diseased group of morphologically and functionally identical cells is peculiar and specific to this group of cells and differs from the excretion of diseased cells of a morphologically and functionally different group. Further, this unfinished waste product retains many of the individual characteristics belonging only to that group of cells from which it was derived.\*

From this it is easily understandable that the special protective ferments, elaborated by the exposed normal cells to combat the injurious influence of the new pathological products, can and do act against such products of one definite group of like cells only; and that those destined to counteract pathological (cytoplasmoid) cell waste from the diseased parenchyma cells of one organ (group of like cells) must be and are powerless against abnormal catabolic products excreted by the diseased cells of any other organ. That is to say, the cellular waste from a diseased kidney calls forth specific ferments that can neutralize diseased kidney waste only, and have no influence over abnormal liver waste.

Further than that, these special ferments, aside from their action against this abnormal waste material, can, under favorable conditions, bring their lytic power into play against the very cells which excrete the waste, because their cytoplasm is similar to it. In *vivo* the conditions for this process are not favorable, because a living cell can and does protect itself against it; but dead protoplasm has lost its powers of self-protection and will be dissolved by the action of these ferments.

The normal protective ferments, those that are always present, and whose function it is to destroy or, at least, render inert or digest further the normal catabolic products, have no such cytolytic power, because the material against which they are active has lost all resemblance to the protoplasm from which it was derived.

These principles, presented in this very condensed and, there-

\* The excretion of these unfinished specific catabolic products is, however, not the only process that may be advanced to explain the presence of proteolysins in the blood. Many diseases cause more or less extensive cell destruction; and particles of the destroyed cells may gain access to the blood stream where they must be digested by specially designed ferments prior to their elimination. Although this view gains strength by the absence of the test in functional diseases and its presence in organic ones, it is not adequate to explain a positive under all conditions. For instance the blood of dementia praecox patients contains ferments which digest sex gland; yet there is, apparently, not sufficient, if any, cell destruction going on in these glands to account for the ferment production. It seems more reasonable that they are due to changes in the cellular metabolism.

Again, it may be that the ferments are not formed by the normal tissue cells as a protective measure, but that they are derived from the diseased cell itself and liberated at the time of its disintegration. To understand this we must assume with McLester that "All metabolic processes are . . . an expression of ferment activity." That is to say, the cell elaborates and contains within itself certain enzymes whose task it is to construct cell protoplasm from food, and other enzymes who tear down useless cytoplasmic material to simpler catabolic excretion products. It is these proteoclastic cell ferments which, when they make their appearance in the blood plasma, will give a positive test. If this is the true explanation then the enzymes are present incidentally, and no longer deserve the adjective "protective."

fore, necessarily incomplete manner, underly Abderhalden's test for protective proteolytic ferments.

Abderhalden did his first work with the test in pregnancy. The placenta, although not a pathological structure, is, nevertheless, something new and foreign; and it may be thought that cytotoxic or, at least, complex unfinished proteids derived from it find their way into the blood stream. These elicit the production of antagonistic and digestive lysins. We have assumed, however, that all normal tissues,—and this obviously includes placenta,—excrete similar and non-specific substances; so that the usual and normally present antibodies should be sufficient to cope with placental waste. If this is not so, then we are forced to make an exception in our theorem, and say that placenta, though a normal structure, elaborates cytotoxins which must be destroyed, or, at least, complex placentoid material which must be digested further, before it can be eliminated by the excretory organs. There is yet another possibility. Placental cells may be detached in toto from the chorionic villi and float in the blood stream, where they act as foreign bodies and must be destroyed by special ferments. The reasonableness of this is at once apparent when the high vascularity, structural looseness, and great fragility of placental tissue is considered. Indeed, Schmorl and, later, Veit and others have established the presence of fragments of the syncytial covering of the placental villi in the blood of pregnant women; and this discovery led Abderhalden to search for placento-proteolysins in such blood. He was successful and, in addition, proved that specific antiplacental ferments are absent in the non-pregnant, and that no disease\* can excite their production.

After the test had been applied in the diagnosis of pregnancy, by most workers with fair to brilliant results, it began to be used in the study of diseases. Tissue from normal or diseased organs was substituted as substrate for placental tissue. It was assumed, as previously stated, that a diseased organ excited the production of ferments to combat the abnormal excretion (or cell degeneration) products of this organ; further, that these ferments exerted not only a lytic influence upon the abnormal metabolic products, but also upon the cells which produced them, providing that these cells were not living cells. If, for instance, serum from a nephritic is allowed to act upon kidney tissue, its cell protein will be split, simpler substances are formed, and these may be detected by appropriate means. Similarly cancer tissue is digested by the serum of cancer patients, thyroid by that of goitre cases, bacteria by the serum of those infected with them.

Much work has been done by various men with diverging re-

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\* Exception: Chorion-epithelioma.

sults in psychoses, particularly dementia præcox. In this disease the sex glands are at fault and, therefore, serum from a dement should digest sex gland protein, as well as cerebral cortex. This has been found to be the case, and at the same time it was discovered that other psychoses, functional or organic, did not create anti-testicular or anti-ovarian ferments. In fact, functional psychoses and neuroses, as manic-depressive insanity and hysteria, do not produce proteolysins antagonistic to any organ whatever, not even to cerebral cortex or other nerve tissue. This makes the test a valuable aid in differentiating this class of diseases from those with an organic foundation.

In other fields the test seems equally promising. In fact, there seems to be no limitation, theoretically, at least, to its applicability in diagnosis.

It may be well, at this point, to give a brief description of the test. A detailed consideration of it here is out of place.\* The object of the test is to determine the presence or absence of anti-placental proteolysins in the blood serum of a given individual. In other words, it is to be established whether or not there are present ferments which have the power to break down the complex cytoplasm of dead placental tissue into its simpler components. Evidently, what we must do is to expose the dead placental cells for a reasonable length of time to the action of the individual's blood serum and then determine whether or not the complex protoplasmic compounds have been broken down to simpler ones by the action of any specific ferments that may have been present in the serum. For this end the serum-placental tissue combination is placed inside a thimble shaped dialyzing membrane surrounded by sterile distilled water. The complex protoplasmic albumen molecule is so large and unwieldy that it cannot dialyze through the membrane into the surrounding distilled water. It is only when this ponderous protein molecule is attacked by the serum ferments and is broken down, that the simpler substances, peptones and amino acids, formed from it, escape through the dialyzing thimble and may then be detected in the distilled water outside by appropriate tests. Of course, if the serum contains no specific anti-placental ferments, then the placental cells will not be broken down, and, consequently, nothing will pass through the membrane. Conversely, if tests for protein (biuret reaction, ninhydrin test) in the dialyzate (the water outside of the dialyzer) are positive, then there must be present in the test individual's blood specific anti-placental ferments which are the cause of the placento-proteolysis; that is, the individual whose blood is tested is pregnant. If the protein tests on the dialyzate are negative, no proteolysis took

\* See Abderhalden, *Defensive Ferments*. Wm. Wood & Co., N. Y. 1914, or Abderhalden, *Abwehrfermente*. Julius Springer, Berlin, 1914.

place, no antiplaccental ferments are present, and the individual is not pregnant.

It must not be assumed that the test is as simple and easy as it may seem from this short description of it. Indeed, pitfalls await the unwary everywhere: in the preparation and preservation of the tissue (substrate), in the manipulation of the blood serum and apparatus, in the performance of the ninhydrin test. Weeks should be spent in preparation to master the test in all its details; for only after such painstaking preparation may one hope to obtain trust-worthy results.

In its practical application many workers have had exceptionally good results, others were less successful. Overenthusiasm on the one hand, and lack of mastery of the technique on the other, are, no doubt, the underlying causes of many of these divergent results. It is to be regretted that a large portion of experimenters do not report their technique in detail; also, that many are attempting modifications and simplifications of the reaction at this early period in its development; for it is only by a comparison of uniform procedures that accurate deductions may be arrived at.

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### CLINICAL OBSERVATIONS OF HYPOTHYROIDISM.\*

By ALEXANDER L. BLACKWOOD, M.D., Chicago, Ill.

During a period extending from the year 1909 to 1912 I made careful observations regarding the condition of the thyroid of the patients attending my extra-mural clinic in connection with the Hahnemann Medical College and Hospital of Chicago. During this time over three hundred patients were examined. The great majority of these cases were the chronically ill. It was found that sixty-five per cent of them presented what is known as hypothyroidism, a term employed to designate a condition in which the secretion of the thyroid is inadequate to meet the needs of the system. The degree of this inadequacy varied from what might appear to be about a normal condition to a complete insufficiency. In some cases it was so slight that it was recognized not by any one symptom alone but by the composite picture of all the clinical findings, together with the history of the case. While this might appear to be slight in some cases, yet it was sufficient to have an important influence over a part at least of the smaller functions of daily life, and these smaller functions in turn complete the daily harmony of good health; while a want of them results in discord and disease. The regulation of the lime salts is dependent upon the function of the thyroid, and a lowering of its function will interfere with their distribution and result in many defects. The

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relation existing between the activity of the thyroid during puberty, menstruation, excessive venery, as is observed in prostitutes, and pregnancy must have been apparent to all, as well as the enlarged tonsils, the presence of adenoids, chronic appendicitis, the high palatine arch and nocturnal enuresis when the secretions of this gland is below normal. Other observations are a subnormal temperature and a hyper-sensitiveness to cold, premature senility with a subichroid hue of the skin, each of which was apparent in many cases. The skin usually present a dry and often a scaly appearance, and there is little or no perspiration even during exertion or hot weather. Another feature frequently observed is a tendency to obesity, when pads of adipose tissue are found over the clavicle, sternum and hips. Transient œdema is observed at various points, but especially of the face, shoulders and ankles. The hair is thinner than normal, in many cases prematurely gray or white, while alopecia is not uncommon. The nails are brittle and broken or may be absent. Neuralgia and parathesia are common, and there are frequently complaints of muscular aches and pains in the knees and ankles, and a sudden giving way of the knees is frequently recorded. The patients are easily exhausted, lack physical stamina, are low in immunizing power and as a result are susceptible to the various forms of infections. It was interesting to note the various diseases from which many of these cases had suffered. The mentality especially of those showing myx-œdema was lowered, while the patients lacked in initiative, and were slow and hesitating of speech. There is often a slight hoarseness present, and dyspnœa is complained of, while careful examination of the heart shows a weakened first sound and a moderate dilatation.

The posture of many of these cases while standing is characteristic. The shoulders are raised and carried forward, the arms are thrown forward and the shoulders present a rounded appearance. The patient gives the impression of a person who feels chilled.

One does not investigate this class of cases very long nor deeply before it is apparent that there is in some of them a condition of thyroid instability, as a result of which for a period there are a group of symptoms present that indicate a deficiency of the secretion; this in turn is followed by a period of excessive functioning during which a state simulating hyperthyroidism is present. This is but an exhibition of the general law of nature that an organ with a defective function strives to restore the normal, this in turn to be succeeded by a period of deficiency. The symptoms presented by this condition vary according to the period of the cycle. We obtain at times a clinical history in which migraine, periodical vomiting, asthma, urticaria, eczema, attacks of muco-

membranous colitis, and waves of rheumatic arthritis appear and to which the term neuroarthritis has been applied. Attention is called to this condition especially to emphasize the fact that at one period the thyroid treatment internally is beneficial, while at another during the period of hyperthyroidism, it but aggravates the condition.

While some of these patients are characterized by leanness, yet obesity is also a characteristic. Inquiry shows that this condition is not due to over-eating, heredity, nor is it the dystrophia adiposa genitalis syndrome that characterizes the pituitary obesity. In the class of cases under consideration, in connection with the obesity there is headache, vague indefinite pain in various parts of the body, a sense of lassitude and repeated mild infections. Before leaving this particular class I would call attention to the fact that many of these patients have a degeneration of the myocardium, and that if thyroid is given to meet the systemic defect it must be given carefully; otherwise an overdose will injure the heart and possibly kill the patient, as digitalis has in unnumbered cases.

As one studies the functions of this gland as indicated by its deficiencies we are impressed by the fact that it presides over the elaboration of the various protein systems of the body, that it is indispensable in enabling the muscular, nervous, glandular, connective tissues, and osseous cells, to attain their normal proportion and proper functions.

In a percentage of these cases constipation was complained of which could not be explained by any local pathology. A more careful investigation revealed the fact that it was spastic in character, and a part of a general syndrome. Such a case has been under observation during the past fall and has been entirely relieved by the use of thyroïdin 2x, t. i. d.

In connection with the constipation there was frequently complaint of distress, pain, tenderness and enlargement of the smaller joints especially; a few gave evidence of aggravation preceding meteorological changes and other evidences of rheumatism; but a general survey of the case gave evidence of more than a rheumatic condition.

A condition that was observed in a sufficient number of cases to make it worthy of more than a passing comment was the presence of chronic appendicitis. Especially was this present in those cases showing a diseased condition of the tonsils and adenoids. In some of these cases where no tenderness was apparent at first in the region of McBurney's point this became apparent as the colon was gently distended with air.

In many of these cases there was a history of some acute condition from which the patient dated his poor health, while in the interim there was frequently a history of repeated infections.

During the period of study of this condition my administration of the thyroid to compensate for the deficiency underwent as great a revolution as my conception of its need to maintain a constitutional balance. At first I employed from three to five grains of the compressed tablet of the thyroid. This dose has been gradually reduced till now one or two tablets of the one-tenth of a grain (1x) or one-hundredth of a grain (2x) is administered two or three times a day. The one-thousandth and even smaller doses is employed, (especially in the hyperthyroidism). I have never employed the liquor thyroïdin of the B. P.

As is well known, it is the thyroid gland of the sheep that is employed as a substitute. It appears to answer well in the majority of cases. It should be remembered, however, that the thyroid of the sheep is lower in arsenic than is the human thyroid. The arsenic has been computed by certain investigators to be sixteen times greater in the human than in that of the sheep. It is a clinical fact that the addition of a small amount of arsenic (3x) to the thyroid affords a more satisfactory result than the thyroid alone. Especially is this true in myxœdema and in those cases where but a small amount of the thyroid disturbs the heart's action, as is indicated by the rapid pulse as well as the polyuria.

It was interesting to note with what constancy the cases of rheumatic arthritis were attended by symptoms of defective thyroid; the cough, dry, harsh skin, the crisp, brittle hair, husky voice and deep suprasternal notch, together with the enlarged and painful joints. It was surprising with what rapidity the local and general improvement took place in these cases when in connection with the thyroid the radioactive tablets were administered. In these cases it was those of the chronic villous arthritis in which the process was limited to the capsule and the cartilage, and bone had not been changed, that were benefited.

In this group of patients were several cases of nocturnal enuresis that had persisted from childhood in spite of the various forms of treatment. In connection with the enuresis there was frequently indications of rachitis, excessive blinking of the eyelids and other features of defective thyroid. The cases presenting this syndrome responded most kindly to the thyroid.

I would not have it understood that the thyroid was the only gland found to be affected in these cases; on the contrary, many of them gave evidence of a defect in some of the other glands as is recognized, as the pleuriglandular syndrome, and demonstrating that these glands are correlated one with another, and especially is this true of those ductless glands of which the hormones has been isolated, as adrenalin, iodothyron and pituitrin that are derived from what is known as the adrenal system.

**THE ORIGIN AND CONDUCTION OF THE CARDIAC IMPULSE;  
ITS DIAGNOSTIC, PROGNOSTIC AND THERAPEUTIC  
IMPORTANCE IN DISEASES OF THE HEART. I. \***

BY CONRAD WESSELHOEFT, 2nd, M.D., Boston.

The subject of this paper concerns itself with a study of that specialized tissue contained within the heart which serves as a point of origin as well as a system of conduction of the cardiac impulse. Attention has been called to this important structure through certain facts brought to light by the experiments of physiologists in their endeavors to bring forth evidence in that still unsettled controversy regarding the myogenic and neurogenic origin and transmission of the contraction wave. Too much stress perhaps has been laid on the interpretation of abnormal heart sounds; phenomena which theoretically are explained by the presence of certain valvular lesions, yet which at autopsy often prove to be merely diagnostic pitfalls. The mere presence of a systolic, pre-systolic or diastolic murmur diagnostic of a given leaky valve is in itself of little prognostic value and alone calls for no treatment. It is only when such leakage is attended by symptoms of an inability of the reserve force of the heart to cope with such a lesion that we need regard the nature of the murmur as more than a curiosity. Enlargement in the form of hypertrophy is, according to its extent, an indication of how much extra work is thrown upon the heart muscle, and is in itself, therefore, a symptom to be considered in prognosis and treatment. Dilatation is, of course, a distinct indication of failure of the heart muscle to cope with the work demanded of it, whether it occur in a normal heart after continued violent exertion, or in an abnormal heart as the result of a stenosed or regurgitant valve, or as the result of a diseased myocardium. Hypertrophy and dilatation denote in themselves to a certain degree an abnormal condition of the myocardium. It is therefore the myocardium which bears the brunt in diseases of the heart, and more especially is this so since Lewis<sup>1</sup> has pointed out that an infection of the heart is rarely limited to the endocardium or pericardium, but usually involves in either case the myocardium. Now when we consider that there lies imbedded in the myocardium that tissue which is absolutely essential to the origin and conduction of the impulse which causes the orderly contraction of the heart, we may appreciate the relative importance of determining the condition of the myocardium to that of determining the cause of a murmur.

The specialized tissue which we have referred to as being imbedded in the myocardium is nothing more nor less than the re-

\* Read before the Alethean Club, February 14, 1915.

mains of the primitive cardiac tube in the mammalian heart. During the evolution of the human being this primitive cardiac tube ceases to be a tube, assuming the structure of a bundle of peculiar fibres running from the mouth of the superior vena cava in the right auricle down through the auriculo-ventricular ring to the apex of the ventricles. This tissue forms the connection between the muscle fibres of the auricles and the muscle fibres of the ventricles so far as conductivity of the wave of contraction is concerned. There are two nodes connecting this tissue: the so-called sino-auricular or sinus node, described by Keith and Flack<sup>2</sup> in 1907, which lies in the sulcus terminalis of the right auricle, and the so-called auriculo-ventricular node described by Tawara<sup>3</sup> in 1906, which is situated in the right auricular wall near the mouth of the coronary sinus in the septum of the auricles. Both these nodes are abundantly supplied with branches of the vagus and sympathetic nerves.

The cardiac impulse arises in a region corresponding anatomically to the sinus node<sup>4</sup>, which thus serves as the normal pacemaker for the entire heart. The excitation wave then spreads at a more or less uniform rate throughout the whole auricle<sup>5</sup> by way of this special tissue, involving the contiguous venous regions and spreading downward to the junctional band between auricle and ventricle, involving in its course the second node, the auriculo-ventricular node. This node, like the first, consists of fine spindle-shaped, interlacing fibres imbedded in a meshwork of connective tissue and also richly endowed with nerves. From this node the fibres of this specialized tissue pass downward as the auriculo-ventricular bundle (the bundle of His or the bundle of Kent), through the auriculo-ventricular ring. In the membranous septum of the ventricles this bundle splits into a right and left branch, which pass along the septal walls of the corresponding ventricles where they break into a complex arborization, described as long ago as 1846 by Purkinje. This network of Purkinje leads directly into the muscle fibres of the ventricles.

Thus the normal rhythmic impulse arises in the sino-auricular node under the governance of the nerves supplied to the heart. The spread of this excitation wave brings about a contraction of the auricles, and involves the auriculo-ventricular node which again under the influence of the nerves transmits the impulse down through the auriculo-ventricular bundle, through the network of Purkinje to bring about the contraction of the ventricles.

The main function, then, of the auriculo-ventricular node and bundle is to transmit the impulse from auricle to ventricle, and thus bring about a co-ordinate heart beat. But this second node subserves another important function. It is capable, under certain conditions, of elaborating a rhythmic impulse of its own independ-

ent of the sinus node, and thus of bringing about contractions of the ventricle. Such a rhythm is always much slower than that which arises in the sinus node. It may be entirely confined to the ventricles, in which case the auricles act independently, or, if sufficiently strong, this impulse may pass backward into the auricles, causing the auricles to contract simultaneously with the ventricles. In both these cases there is an inco-ordination of the auricles and ventricles, which very clearly must impair the efficiency of the heart as a compound pump.

Three very important instruments have been devised for the purpose of recording the movements of the circulatory mechanism. The first, familiar to you all, is the sphygmograph, which records a tracing of the radial pulse. The second is the polygraph, an instrument which, in brief, records the pulse wave in the radial artery simultaneously with the waves in the carotid artery and jugular vein, and includes the respiratory movements. The third is the electrocardiograph, a string galvanometer, which records on a photographic plate the electric currents set up by the contraction of the muscle in the different chambers of the heart.

These machines enable us to recognize and identify, in the majority of instances, the seven clinical varieties of disordered heart beat: sinus arrhythmia, heart-block, premature contractions, paroxysmal tachycardia, auricular flutter, auricular fibrillation and pulsus alternans.

*Sinus arrhythmia* is an irregularity of the heart's action, due to variations in vagal tone. In children and in young adults we frequently find an irregularity of this type caused by the effects of respiration on the vagus nerve. The chambers beat co-ordinately, but the pacemaker being supersensitive reflects its own irritability on the rate of the heart. It disappears on stimulation of the heart by exertion. The condition indicates a healthy heart action, and therefore requires in itself no treatment. Its importance lies in its confusion with other irregularities.

*Heart block* is the term used to define a delay in, or absence of the stimulus of the pacemaker reaching the ventricles. An increase in the interval between auricular and ventricular systole, as seen in the jugular tracing, is the first indication. Later the ventricles fail to pick up all the normal impulses, and we find beats missing in a characteristic manner in the radial. This gives rise to an irregular pulse. Finally the ventricle may be absolutely cut off from the auricles by a complete block. This gives rise to a slow, regular, independent rhythm of the ventricles of about 30 to 40 a minute, as shown in the radial tracing, quite out of relation to the more rapid rate of the auricles recorded in the jugular tracing.

A *premature contraction*, or "extra systole," results from a new and isolated impulse arising somewhere in this specialized tissue.

It occurs out of time with the normal impulse of the pacemaker, and consequently it comes prematurely in the cardiac cycle. Such an abnormal impulse arises from a point of irritation in the myocardium. If it arises in the auricle it involves the entire heart. If it arises in the ventricles the ventricles alone respond, and the fundamental rhythm is not disturbed. Premature contractions may be induced by the excessive use of tobacco<sup>1</sup>, by overdosage of digitalis and other heart poisons, such as adrenalin, aconitin, muscarin, physostiginin<sup>6</sup>, chloroform and barium chloride<sup>9</sup>. They constitute evidence of a pathological process in the myocardium which may be temporary or permanent, and are frequently found in conjunction with serious involvement of the cardiac muscle. The treatment depends upon our ability to determine the cause of such contractions, and upon the extent of myocardial damage. Since no drugs in material dosage can be said to benefit this condition, I am endeavoring to determine whether any of the above drugs and gold in small dosage are of any value. This is decidedly difficult, as so many factors come into play in these conditions. I therefore offer nothing in this respect except perhaps the optimism born of hope.

Simple *paroxysmal tachycardia* is due to a series of new and abnormal impulses arising within the heart. These impulses, which are of the same nature as premature beats, follow one another so rapidly that they dominate over the original impulse and show only a limited subordination to vagal or sympathetic control. In such an attack the pulse suddenly jumps to from 110 to 200 per minute, and comes back to normal just as abruptly. The patient complains of discomfort about the heart and palpitation. A feeling of weakness with cold perspiration follows. If the attack is of long duration, nausea and vomiting may come on. The prognosis is dependent upon the length of the attack, which cannot be foreseen. Death rarely occurs from such a paroxysm, but the effect of each attack on the whole heart may be serious in view of the fact that the condition is in itself evidence of a diseased heart muscle. There is no drug which is known to be reliable in benefiting the patient in this condition. Firm pressure on the vagus has been used successfully, and narcotics or even anæsthetics may be resorted to if the distress becomes too severe.

*Auricular flutter* is much the same condition as the above, only differing in degree. Here the auricles take on a rate of from 200 to 350 per minute. Unlike paroxysmal tachycardia, auricular flutter is invariably associated with heart block; the ventricles usually respond to every second, third or fourth auricular contraction. According to Lewis this condition can frequently be overcome by full doses of digitalis followed by a sudden withdrawal of the drug.

*In auricular fibrillation* the fibres of the auricle do not contract co-ordinately, and this chamber fails to perform its function. An exposed fibrillating auricle looks like a mass of live angle worms.

This condition gives rise to a continuous bombardment of rapid, irregular impulses on the ventricle which responds to as many as it can, giving rise to an absolutely irregular radial pulse together with an absence of venous pulse in the jugular. The condition is evidence of serious myocardial damage, and usually heralds cardiac failure. The prognosis is dependent upon the rate of the ventricles, and the response to treatment. It is here that an active digitalis in material dosage exerts its beneficial influence, especially is this so when there is a rheumatic history in the case. This drug and the other members of its group, strophanthus and squills, etc., will produce heartblock in this condition. By so doing it allows an embarrassed ventricle to assume its own intrinsic rhythm from the auriculo-ventricular node. At this slow and regular rate the ventricles fulfill their functions of supplying the pulmonary and arterial circulation, and thus by restoring a more normal flow of blood, do away with the symptoms resulting from a broken compensation. The auricles may or may not continue to fibrillate. With the long diastolic pause the ventricles have plenty of time to fill without the help of the auricles. Fibrillation may continue for months or years and the patient have good compensation under the influence of the digitalis heart-block. The discussion of the *modus operandi* of digitalis will be taken up later on.

*Pulsus alternans* is a condition in which the irregularity of the cardiac contractions is confined to a variation in the force of the contraction of the left ventricle, a strong beat alternating with a weak one. The rhythm of the pulse, however, is regular. Unless very marked this can only be determined by a sphygmographic tracing. The cause of this phenomenon is still unknown, but we do know that its presence is, with rare exceptions, associated with heart exhaustion, and is therefore indicative of a grave prognosis. It should, therefore, call for a regulation of the patient's life to bring about as little cardiac effort as possible.

The polgraph as an instrument of precision allows of more accurate determination of the patient's condition. As such it helps us in making a prognosis and in the selection of therapeutic measures. Finally it is a means of estimating more accurately the efficacy of drugs in disease, a study, which, when more generally appreciated and sufficiently mastered, will undoubtedly be of marked benefit to the sick.

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## THE ABORTING OF SYPHILIS.

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The present writing will be confined to a description of methods which have been successfully employed in aborting syphilis. Clinical observations extending over a period of eleven years have proved that if primary lesions of syphilis are treated during an early stage in their development, general spirillosis may be easily and quickly prevented. There may be exceptions to this rule, but in a large number of cases none have been observed.

In order to understand the operations of the agents employed, it may be well to briefly review the process by which the so-called stages of acute and chronic syphilis are produced.

It is admitted that the primary lesion is the result of spirochetic invasion. During some form of contact germs are transferred. The period of incubation is the time required by the transferred germs to reproduce in sufficient numbers to accomplish the destruction of the epithelial cells so the eye may detect an erosion, which marks the beginning of the period of the second stage of incubation.

As the colony increases in numbers the surrounding tissues are occupied, and the erosion takes on a more marked appearance of ulceration, which rapidly deepens. As the colony extends, involving the tissue surrounding the ulcer, induration follows the invasion until, joining beneath the ulcer, it forms an indurated base. The development occurs very rapidly.

After a sufficient increase in numbers, the movement toward further organismal infection is commenced. This state of the invasion is conducted through the lymphatic ducts, and one or more of those leading from the gland or glands nearest the ulcer will usually show evidence of inflammatory action. There will be redness, tenderness and sometimes marked induration along the course of the duct. In many cases progress of the invaders may be readily observed. This shows invasion is accomplished through lymphatic—not sanguinous—routes. Any degree of systemic infection present before the commencement of general invasion is not microbic, but due to toxins generated by the parent colony.

Craig's observations, reported by Noguchi (3rd Ed. p. 118) show that in thirty-five cases, but one gave positive reaction until after the fifth day following the appearance of the initial lesion. It is, however, more than probable that Lesser's case, in which positive reaction was shown fourteen days before the advent of primary ulcer, is more nearly correct. After careful analysis it will be found that this early period of positive reaction is not important,

excepting as to its diagnostic value. It does not affect the certainty of aborting general spirillosis.

It is not unreasonable to believe that an infinitesimal degree of infection is present at a very early period after the impure contact, but it is so feeble that it sometimes fails to produce a positive reaction, in the delicate tests necessary to determine its presence. The mild infection slowly increases, but without great danger to the patient, until several days after the appearance of the lesion. The length of this period may not be accurately determined, as it is modified by the virulence of the infection and general systemic conditions.

The diagnostic value of serum tests cannot be overestimated, but it is nevertheless true that, even when made by experts, there is a wide variation in results. Detre and Brezousky reported forty-three cases of primary syphilis in which ninety-eight per cent presented positive reaction, while Hoehne, in forty-four cases found but thirty-eight positive. In commenting upon these cases, Noguchi says: "This difference may be accounted for, aside from technical considerations, by the state of infection at the time of examination. *Early stages of chancre frequently give a negative reaction.*" A negative reaction, whether from "technical considerations" or "the state of infection" deprives the test of its diagnostic value in that particular case. It throws the examiner back upon the necessity of long delay, or the physical appearances as a guide to diagnosis. It is in this early stage that abortion is most quickly and certainly accomplished. In this class of cases the new method deprives the patient of no advantage which may be obtained by later tests. If the lesion is benignant, destruction can do harm.

Clinical experience has abundantly demonstrated that by rapid destruction of the germs at this time, the disease will be aborted.

It is admitted that in certain cases the infection proceeds more rapidly than in others. This is not as important as might at first appear, since, regardless of time, the secondary incubation is local and must precede secondary lesion, which are evidences of more general invasion.

Destruction of the germs should be accomplished at the earliest possible moment, but the appearance of secondary lesions may usually be prevented if the chancre be destroyed a week, or even ten days after appearance.

The infecting agent of syphilis is incomparably less active than that of diphtheria, pneumonia and many other infectious diseases. In these the toxins are generated so rapidly and are so virulent in their action that within a brief period the general symptoms may become alarming, while the syphilitic infection may pursue its course for many days without serious inconvenience. The

importance of this will be understood when considering the subject of treatment. It is not the purpose of this writing to enter into a detailed description of syphilis and its various complications further than is necessary to understand the objects of the new method of treatment.

It is known that syphilis is a germ disease, and that the initial lesion is a circumscribed incubator which, if undisturbed, will result in general spirillosis, causing tissue degenerations which produce the various phenomena observed in the so-called secondary and tertiary stages of the disease. Knowing these facts, it is reasonable to assume that if a means were devised for the immediate destruction of the parent colony, the disease would be aborted. This was recognized long ago, and various methods have been employed with a view of accomplishing this result. Excision of the primary lesion failed, owing to the fact that during the operation the blood washed enough germs into the living tissues to create new points of infection. There are other causes which will be considered later. Failure by means of the actual cautery may be attributed to the same causes. That these methods do not accomplish the destruction of the parent colony is shown by the induration of the resultant traumatic lesions. *When destruction is complete all evidences* of induration will immediately disappear. In fact, this is the only safe guide in determining the extent of the destruction of tissues. If any degree of induration appears during the healing of the wound, the operation must be repeated. During the past ten years I have many times demonstrated the fact that if cauterization of the initial lesion be affected by powerfully penetrating rays of light, the whole colony will be quickly destroyed. One application of a few minutes will accomplish this result. A convenient method of producing such cauterization is by means of the condensed rays of a powerful incandescent lamp. If such apparatus is not at hand the same results may be obtained with sunlight condensed by an ordinary lens. If the lesion be small and well defined, a high-frequency current may be successfully employed.

But whatever method is employed *cauterization must be thoroughly accomplished.*

*It must be sharp and certain and include all infected tissues.*

*The whole field of induration—including the base—must be destroyed.*

*A slowly cooking process will rarely succeed.*

*Cauterize fearlessly.*

I repeat and desire to emphasize these instructions, because they are necessary to success. A little unnecessary destruction of tissue is of no consequence, since the new lesion, freed from infection, heals quickly and without induration or soreness. When

cauterization is properly performed it will be observed that both have subsided during the operation. If either remain, the operation must be repeated. There need be little suffering during the destruction of tissue, even though extensive, as the ulcer may be anæsthetized before the rays are applied. Even when no anæsthetic is employed it will be observed that no smarting or burning sensation follows the operation when performed by either of these agents. Whatever agent is selected, it should be remembered that *thoroughness* is the keynote of success.

It must be understood that the foregoing applies only to those recent lesions in which it is quite certain that the germs are confined within a limited area during the period of so-called incubation. The new treatment not only aborts these cases in which it has been demonstrated that the lesion is the result of spirochetic infection, but it saves delay in doubtful cases in which serum tests give negative results during the early stages of the lesion. There are large sections of the country in which expert examinations are not readily obtainable, but knowing it to be unnecessary, will relieve the mind (of both patient and physician) of harassing doubts, since the process described is the best means known for the destruction of other forms of infection, which are sometimes mistaken for chancre. The cauterizing process in doubtful cases differs only in the extent of the destruction. The milder infection resulting in a more superficial ulceration should be cauterized lightly,—chancre requires extreme thoroughness. This is mentioned only for the purpose of showing that certainty as to the cause of the lesion is not absolutely necessary. If this be true—and it is—the mistakes in diagnosis will not subject the patient to the incalculable harm he has heretofore suffered. The operation is very simple, as the eye and finger soon become skilled in determining the extent of cauterization necessary for the destruction of a given lesion.

In those cases in which the lesion is not extensive and the patient prefers to endure a moment of pain rather than employ an anæsthetic, the greatest danger lies in the insufficiency of the cauterization through sympathy. Insufficient cauterization is worse than none, and must be very soon repeated.

Hypodermic injections for the purpose of local anæsthesia are rarely admissible, as infiltration of the tissues seriously interferes with the destruction necessary for success. When attempted, the needle insertions should be made at considerable distance from the lesion. Dry the ulcer carefully before commencing operation. Failure is often due to bleeding. When this is anticipated, commence the operation by applying the rays more feebly, and gradually approach cauterization; or, what is sometimes better, employ the high-frequency current. Adrenalin may sometimes be advantageously employed.

The old idea of instantaneous systemic infection has been

slightly modified, but the authorities are still committed to the theory that any degree of infection shown by positive reaction must, without medication, result in general spirillosis. But such a position cannot be maintained. It denies the possibility of progress in therapeutic knowledge so far as this disease is concerned.

It is admitted that the first infecting act is the lodgment of germs upon some favorable location. If these were immediately destroyed, systemic infection would be unappreciable. If they remain until the second period of incubation be inaugurated, there will be a greater degree of systemic infection. Authorities differ as to whether the toxic agent is present in sufficient quantity to be appreciable by tests. But granting that Lesser was not mistaken, that an infinitesimal amount be present, and that positive reaction may be obtained, it is certain that the system is far from being saturated at the commencement of the period of second incubation.

It must be admitted that at this time, and during the whole period of second incubation the germs are confined to the area of the lesion. Here they hive and reproduce like bees, and it is only when they swarm and migrate, that other tissues are infected by their immediate presence. It follows, then, that if the parent colony be destroyed before the period of migration there will not be one spirocheta remaining in the body. After this has been accomplished the therapist will have to deal with the so-called antibodies or toxins only.

The danger of spirochetic invasion being past, it will be proper to consider the seriousness of the presence of the toxins, the quantities to be eliminated, and the means at command to force the elimination. Therapists have heretofore over-estimated the seriousness of the mere presence of toxins. The degree of the danger depends upon the quantity of toxic matter. In like manner they have under-estimated the inherent power of the body to eliminate offending material and restore the vital energies to normal conditions. Experience has abundantly proved that if the parent colony be destroyed within a few days after the appearance of the initial lesion, Nature will, unaided, free itself of the small quantity of toxic matter present at that time. This will often occur, even when the destruction has been delayed until the tenth day.

It is known that powerfully penetrating light rays aid elimination, and for this purpose they should be applied over the whole body, in cases where destruction of the chancre has been long delayed.

A serum test is desirable in all cases in which it can be made without delay, but do not spend valuable time waiting for it. Destruction of the chancre can do no harm. Serum tests may follow. The method of destruction detailed is simple and effective. Its truth or falsity can be easily determined.

### ARGENTUM NITRICUM (AG. N.).

By JOHN H. CLARKE, M.D., London, England.

(Continued from our April issue.)

CLINICAL.—Acne (Syphilitic).—Diabetes. Duodenal ulcer. Dysentery. Hæmorrhoids. Lumbago. Mucous colitis. Neuralgia, supra-orbital. Œsophagus, spasm of; stricture of. Spermatorrhœa. Uterus, prolapse of.

CHARACTERISTICS.—*Ag. n.* was first prepared by the Arabians. Introduced into practice by Paracelsus. After the short proving of the 15th centesimal by Hahnemann (1813), it was not proved until Dr. T. O. Müller proved it, and published one of the most learned treatises in medical literature in 1845 in the *Austrian Journal* under Watzke's editorship" (Hg.). Many provings have since been added. There are two errors in the text of the *Dict. Mat. Med. P.* 165, line 7 from bottom, "spots" should read "spot"—"small spot between xiphoid and navel," etc. P. 167, line 11 from top for ">" read "<"—"Cough < evening and night." In the introductory part of my article (p. 162, 12) I have this remark "In allœopathic practice the dyspepsia for which *Ag. n.* is given is < before food when the stomach is empty. The opposite condition is the leading indication in homœopathic practice." *Ag. n.*, in fact, has both > and < by eating. "Eating > nausea, but < stomach pains."—"Pain in abdomen as if sore; with great hunger; > after eating but a trembling sets in in its place." This last strikingly suggests the "hunger pains" of duodenal ulcer, and I have given *Ag. n.* with great benefit in such cases. Again, "giddiness > after dinner is another *Ag. n.* symptom, and I cured rapidly a case of vertigo, which was > after lunch in an old man who had suffered from lightning pains for many years. *Paraplegia* very strongly calls *Ag. n.* to mind. I cured a very bad case of post partem paraplegia with *Ag. n.* 5. In *Homœopathic World* Jan., 1909, I have recorded this with a number of other cases. Brewer's proving of *Ag. n.* brought out symptoms referred to the prostate gland. The following case illustrates this clinically: Man, 63, sanguine temperament, light eyes, who had warts on left forehead at hair margin, had enlarged prostate with difficult micturition. "Too frequent desire to urinate; sensation as if there was too little space for the urine to pass." The symptoms of the proving are "Urethra feels swollen; inability to pass urine in projecting stream." *Ag. n.* 3x twice daily removed all the symptoms. Some of the provings of *Ag. n.* were truly heroic. A student, 22, took ix trit. as much as would cover the point of a knife each evening on returning. There followed a graphic picture of the drug's action:—metallic styptic taste, like ink, immediately; dizziness before falling asleep; rest-

less sleep; dreamful with much tossing about and frequent dazed waking; woke early in morning with flatulent rolling and rumbling in bowels, and sensation as if he must go to stool. Three diarrhœic stools at short intervals, the first papescent and copious, the other two scanty and of watery mucus, dark and fetid. Does not relish the usual breakfast (coffee and milk). The whole forenoon his limbs feel very weary and debilitated; as after a long journey, with great feeling of illness, dread of labour, drowsiness, chilliness; does not look well. No appetite; frequent rising of air. Feels chilly all over in evening (in the room). After 2nd dose, diarrhœa in night; six liquid brown fetid stools. Sweat with chilliness as soon as he got warm in bed. After waking, painful confusion in forehead; this disappears after retiring—wearily debilitated, no appetite. Slimy tongue; the papillæ are enlarged, and on eating sore aching like a sore. Looks very old. Frequent emission of pale strong-smelling urine. Urine continues to drop out after the micturition is accomplished, with sensation as if the urethra were swollen. After 3rd dose drowsiness and tossing about in night but no sleep. Palpitation. Sweat towards morning. Tremulous weakness in daytime accompanied by general prostration and apathy. No appetite; food tastes like straw. Weakness of lower extremities persisted some days after the proving. This was one of Dr. I. O. Müller's provers. The symptoms are all characteristic. Another of Müller's provers, man, 32, who took a like dose had: a bitter, metallic, astringent taste "as of verdigris" causing nausea and retching; could not get to sleep for fancies and "images hovering before him"; then dreamful half-slumber for first part of night; scarcely had he become quiet when he had to go to stool, with slight colic; he had *sixteen greenish fetid mucous discharges* during the night which went off with a quantity of noisy flatulence. Great debility in daytime, even to exhaustion; *lumbar region felt as if beaten to pieces*. *Papillæ about left margin of tongue became erect in the shape of erect reddish, painful pimples; the tongue pained as if burnt*; fauces and œsophagus felt burning and parched.—These provings have given keynotes for the use of the remedy. Guided by this symptom "*Abundant prominent papillæ on the tongue, especially at tip*," W. S. Searle (N. A. J. H., April, 1871) cured with *Ag. n.* 3x a young married lady, who had had several miscarriages and still-births and was evidently syphilitic, of a terribly disfiguring acne of the face, menorrhagia, with grinding, twisting ovarian pains extending to back and down thighs; ceasing entirely at night and recurring at a varying hour in the morning and lasting all day; leucorrhœa and albuminuria. Under the remedy all vanished like a mist.—The *green stools* of the above proving have provided another keynote. Frank Kraft (Cleveland, *Med. and Surg. Reporter*, June, 1907), tells of a case of nightly

colic with frequent discharges of green spinachy stools in a nursing infant, traced to over-indulgence in sweets on the part of the mother. The mother received *Ag. n.* and the baby was cured. Kraft gives the three distinctive colours of *Ag. n.* as *green*, *blue* and *black*. "The teeth get *black* easily. Sores about the body may take in a *black* edge; the tongue though thickly coated with white, may be *blue* and hard and dry; whilst *green* is the most characteristic colour of the stools. This will often distinguish it from *Fer.* in "diarrhœa < from drinking." Both have "fluids run through him," but *Ag. n.* stools are green. But the stools of *Ag. n.* are not exclusively green. Bloody mucus and shreddy membranes point to the condition called "mucous colitis." I have found it of great use in many cases, particularly where there is distress in the left hypochondrium.—S. Van den Berghe (*Homœopathic World*, Jan., 1909) records a characteristic case of *Ag. n.* diarrhœa in a school-boy of 7. There was complete loss of appetite, no thirst, a soft stool on rising. Subsequently the condition grew worse, the stool coming at 5 or 6 a.m., and followed by another immediately before he departed for his class. Then the stools became more frequent and were mixed with bloody mucosities of epithelial *débris* sometimes *greenish*, always urgent and accompanied by noisy flatus driven out with force. Occasionally the stools were involuntary. The discovery that the boy had an *extraordinary appetite for sweets* before his illness came on led to *Ag. n.* 6 being prescribed, and a rapid cure resulted. But school-fight had doubtless as much to do with this case as the sugar and thus *Ag. n.* was doubly indicated. Van den Berghe also cured a case of nocturnal enuresis with *Ag. n.* in a boy of 10 who was *inordinately fond of sugar*.—In the case of the first prover alluded to above, the weakness of the lower extremities persisted after all other symptoms had disappeared. In paraplegia from exhaustion, from concussion, from alcoholic excess; hysterical and diphtheritic paralysis, and in spinal sclerosis *Ag. n.* has a place according to Kraft. A characteristic concomitant of *Ag. n.* symptoms and ailments is *lassitude and trembling of the limbs*.—The second of the two provers quoted above had a cough: "during the day dry tickling in larynx inducing cough; several turns of dry hacking cough." After 4th dose,—"paroxysms of dry cough at night, sometimes so violent that it induces vomiting; the chest is filled with mucus." After 5th dose "cough and sweat at night."—E. H. Van Deusen (H. M. March, 1903) records this case: A child, 2, had recovered from a laryngo-tracheitis. There remained a cough, convulsive, hoarse and gagging occurring at 1 a.m., and lasting one or two hours in frequently repeated paroxysms. Several remedies were given fruitlessly. Then *Op.* 6 two drops on sugar gave a quiet night. Then the cough returned 11 p.m., and lasted till 1 a.m. *Ag. n.* 3x gr. ii

in ʒii of water; ʒii at 6 p.m. and 8 p.m. with entire relief from the first dose. In the chronic laryngitis of professional singers *Ag. n.* is in the first rank.—Among the peculiar *symptoms and sensations of Ag. n.* are headache with chilliness. Mental exertion = pain in the head. A cool wind passes from right frontal eminence to right eye. Aching in the head with sneezing. Burning pains. Digging pains. Pressing pains. All-day headache. Headache < by strong and agreeable odours. Confusion in head > by eating. Pains fly about: right forehead, bone of left forehead, right wrist; occiput and frontal protuberance. As if a board before left ear. Tickling as from a feather in the throat. Sensation as if a stick in the throat. Nausea resembling hunger (hunger-pain). Wakes with sensation of heavy lump in region of stomach. Gnawing in stomach. Stinging in liver. Sensation of a ball ascending from abdomen to throat. Sensation in urethra as if a fluid running from behind forward. As if a splinter had been pushed in urethra. Attacks of suffocation on waking as if a cord or iron band were around chest. As if period were coming on. As if bones were loose in sacro-iliac synchondroses. As if a spider's web were on left forehead and cheek. Pains which increase and decrease slowly. The sacral and pelvic bones are the seat of many pains.—The debility of *Ag. n.* is profound and is mental as well as bodily; the least mental effort = headache.—*Ag. n.* has many dreams and Boniface Schmitz (*Jour. Belge d'H.* 1876, v. iii., p. 99) gives this case: A girl became insane after witnessing the sudden death of her sister at a ball. Among her symptoms were "visions of serpents," and this led to *Ag. n.* 3 being given with complete success. Kraft mentions dreams of the dead; that he is carrying them up and down stairs; and he mentions one case in which the patient had this dream for three weeks.—Some leading conditions are: < when angry: "when he becomes angry he becomes vehement, and pain in the head comes on; cough, pain in the chest and weakness follow this anger. The anxiety that he has from these circumstances will bring on complaints" (Kent). Thinking intently or mental exertion = headache and makes vision <. Intolerance of tobacco-smoke. "< *After lunch*" led me to the cure of a case of vertigo with this modality. The repertory gives it vertigo < after dinner. *Ag. n.* has many symptoms > by eating, especially nausea; and confusion in the head. Coffee < confusion in the head. Strong and agreeable odours < headache. Headache is < in open air; < on waking; < in afternoon; < by least motion; in warmth. Infra-orbital neuralgia < in winter; eye-symptoms are < in warm room; < near a fire; > in open air; < by straining eyes. The sore throat is < by drinking cold water and by empty swallowing. Diarrhœa is < by drinking—"drinks run through him." There is a cough which

is < in the daytime. The pains in the back are < at night < when sitting, > when stretching the spine. The back pains give a very good picture of many cases of lumbago. *Ag. n.* is suited to women at the climacteric; to young widows suddenly bereft.—A writer in *Medical Century* (Nov., 1913) calls attention to a point in the dosage of *Ag. n.* He had been unsuccessful in some gastric cases in which *Ag. n.* was apparently indicated when giving it in either potencies or 3x tablets. He then prepared a 1 per cent. aqueous solution and gave three to five drops of this in a little water every two or three hours, with speedy relief to indigestion symptoms. It will be necessary to use distilled water for these solutions.—Dr. Collard (*Le Prop. de l' H.* Jan., 1914) relates the case of a woman who had long been treated for attacks of hepatic colic frequently recurring. She vomited everything she took. Every time she swallowed any food it seemed to *fall into the stomach on an ulcerated surface*. She had the skewer-like pain (*la douleur en broche*), pain provoked by pressing at the level of the epigastrium and radiating into the back. *The headache was > by pressure, or by tying a bandage tightly across the forehead.* *Bis. 6*, Carbonate of Bismuth, crude, *Phos. 6*—all failed to help. *Ag. n. 30* cured rapidly. The vomiting ceased, never to return.

RELATIONS.—An occasional dose of *Pul.* favours the action of *Ag. n.* in ophthalmia. *Compare:* Effects of shock or grief, *Aco.*, *Ign.*, *Opium*. Cough from anger, *Ant.t.* Effects of apprehension, *Ana.*, *Gel.* Craving for cheese, *Lyc.* (but with *Lyc.* gratification = sickness). Liquids run through him *Fer.* (but with *Ag. n.* the stools are apt to be green). < From ice-cream, *Ars.* Ringing in ears and deafness. *Na. sa.* Brain feels full, *Scu.* < afternoon, *Lyc.* < Waking, *Na. m.* Pressure deep in brain, *Bac.* (“deep in” headache). Pains increase and decrease slowly, *Stn.* Gnawing at stomach, *Act. r.* (gnawing as from rats). Sliver sensations, *Nt. x.* Locomotor ataxia, *Alm.*, *Almm.*, *Oxt.*

CAUSATION.—Anger, Grief, Shocks.

## THE ATTITUDE OF SOME EMINENT MEN TOWARD HOMŒOPATHY.

By A. E. P. ROCKWELL, Worcester, Mass.

Is the public school system a success? Is Medicine a liberal profession? When we view the variety and extent of obsessions (sometimes called prejudices) possessed by so-called educated persons we suffer a feeling of concern. In contemplating the prevalence of these obsessions in our own profession we are overcome with dismay.

The successful attainment and orderly classification of knowledge for pragmatic purposes presupposes judicial mental processes. The absence of catholicity, the lack of breadth of outlook which pervade the medical profession registers the extent to which we have failed to appreciate these considerations. That purview, so characteristic of culture, so essential to synthetic and orderly progress, is conspicuous throughout medical history by its absence. Society expects, and is entitled to exact of the medical profession, judgment, poise, and freedom from dogma. When weighing the potential influence for good inherent in the art of medicine, the tragedy accompanying our failure to realize these expectations is apparent.

How frequently have we offered in extenuation the excuse that we have been so engrossed with the development of the scientific phases of medicine that we have neglected the philosophic values appertaining thereto,—little realizing that only through the secure emplacement of the latter can we erect any enduring scientific superstructure. In asking how tolerable will be our condition if we continue to disregard these facts, and in entering a plea for greater tolerance in scientific discussion, I am prompted to quote the following expressions of opinion upon one of the most important items of medical disagreement, offered by a group of gifted gentlemen who many years ago went on record in favor of medical Renaissance. In 1883, G. P. Putnam's Sons issued a book entitled "An Ethical Symposium" containing a series of statements concerning medical problems by the following eminent physicians:

Alfred C. Post, William S. Ely, S. Oakley Vanderpoel, Lewis S. Pilcher, Thomas Hun, William C. Wey, John Ordronaux, Daniel B. St. John Roosa, Cornelius R. Agnew, Abraham Jacobi, and H. R. Hopkins. From this book I extract freely statements in this connection.

"Twenty-four years ago William S. Ely, M. D., wrote: 'There is no difference between physicians but such as results from their personal talents, medical acquirements or their experience. . . . The pursuit of truth, justice and humanity are alone enjoined and each individual is to determine whither that pursuit shall lead him.

"Between those who believe in the creation of the world by cataclysms and those who believe in orderly evolution there is as wide a difference as between sugar pills and castor oil. Yet I never heard of one body of scientific men refusing to sit down and compare views of creation with the other.'

"At the same period Lewis S. Pilcher, M.D., wrote: 'Any remarks upon the nobility of the profession of medicine would be trite; it claims for itself, and the willing tribute of others accords to it, the pre-eminence among the callings that men give themselves to, for the devotion to humanity, the high courage in the face of danger, the self-sacrifice for the relief of others, the public spirit, the liberality of views and the general culture which the duties, the studies and the influences of the profession tend to develop, and which its members as a class display.

"'A physician is not a member of a guild or corporation, the rules of which he must comply with in order to retain his membership therein and to enjoy its benefits, but a member of a liberal profession, the rules of which are the unwritten law of humanity and the special requirements of which must vary much according to the peculiarities of his environment.'

"Thomas Hun, M.D., expressed himself almost a quarter of a century ago with reference to this subject as follows:

"'Dr. Austin Flint, Sr., who seems to have studied carefully the whole question and who has published in the *New York Medical Journal* an admirable commentary on the code of medical ethics, says in the April number, 1883, page 372: "The objectionable point of the code is that which makes a practice based on an exclusive dogma" the ground of a refusal to meet practitioners in consultation. This is not a valid objection. Any physician has a right either to originate or adopt an exclusive dogma, however irrational or absurd it may be.'

"On page 373: 'Opinions held by members of the regular profession, however at variance with those generally entertained, and however absurd, may fairly give rise to criticism and ridicule, but they cannot be made occasions for professional discipline.

"'It is pleasant to find one's views coinciding with those of one who has carefully considered the whole subject, and who has brought to its study distinguished ability and high personal and professional character. When we remember that Dr. Flint is a prominent leader of a party in the profession, to most of whom these liberal and just views must be extremely distasteful, we cannot but admire his candor and fairness. The views he has presented are eminently sound and commend themselves to the judgment of those who understand the conditions which underlie all scientific progress, to wit: the largest toleration and freedom of discussion. Under their influence new truths are brought out and

examined and errors eliminated, for error is most dangerous when driven into obscurity. No man or body of men can lay claim to absolute truth; the wisest are no more than seekers after truth. There can be in medicine no heresy because there is no orthodoxy.

“If the principle I have, in accordance with the views of Dr. Flint, endeavored to establish in the beginning of this paper, namely, that those who have received a medical education are entitled to recognition by the profession, irrespective of their doctrines and systems, is sound, then this exclusion of the educated homœopathists, because their practice is based on an exclusive dogma, is illogical. Toleration, if it means anything, means toleration of error, and I do not see how to draw the line which shall limit this principle. To me homœopathy is so false in its statements and assertions, so unsound in its reasoning and extravagantly absurd in the therapeutic agencies on which it relies, as to put a great strain on my power of toleration; yet, even in an extreme case like this, it is unwise to violate by any act of exclusion this great principle lying at the foundation of scientific discussion and of search after truth.

“But there is, according to Dr. Flint, still a disqualifying cause which should exclude homœopathists from consultation, and this is the assumption of a name and organization distinct from and opposed to the regular profession.”

“There is undoubtedly force in this objection, but if we look back at the history of the rise and growth of homœopathy in this country the objection will be weakened, if not invalidated. Surely the doctor is old enough to remember the persistent efforts made in the beginning by the homœopathists, when as yet they had no organization, to be admitted into our county medical societies, or in the case of members of the societies who adopted homœopathy to resist expulsion. The numerous suits unsuccessfully brought before the courts to compel the societies to admit or retain them sufficiently attest that if they now have a distinct organization the fault is not on their side. We thrust them out-of-doors, and now it comes with a bad grace from us to give as a reason for refusing fellowship with them that they are not in our house. Here the regular profession lost its great opportunity. If, instead of rejecting those among the applicants who had received a medical education, we had taken them into our ranks, notwithstanding their adoption of an exclusive dogma and unsound therapeutic doctrines, we should have avoided for ourselves much embarrassment and mortification, and the career of homœopathy in this country would have been very different. It is plain that this objection now made by Dr. Flint to their recognition was not at that time a valid reason for their exclusion, for it was created by that very exclusion. They were excluded on the charge of “basing their practice on an exclusive dogma,” which we now, in accordance with

Dr. Flint, maintain to be not valid, and consequently their exclusion was a blunder of the regular profession. This blunder drove them into a separate organization, and this now constitutes a great objection to their recognition, and, as I understand Dr. Flint, the only objection, provided they have received a medical education. Shall we, then, by persisting in the blunder which has driven them into a separate organization, which is itself, as Dr. Flint has pointed out, the only valid objection to their recognition, perpetuate this schism, or shall we, by retracting our false step, try to heal it? Let us proclaim that every man who has completed his medical education goes out with full right and duty to adopt such views as seem to him true, and such practice as seems to him prudent and useful, and that those who entertain different views and adopt different practice have no right to condemn or oppose him except by fair argument. The time for sober thought will come, and the principles and measures involved in this discussion must ultimately be decided by intelligent reflection, and not by the clamor of a noisy crowd assuming to be the guardians of medical interests and honor. To arrive at a decision which will be wise and satisfactory we need no suppression of discussion, no securing of pledges, no virtual expulsion of minorities, nor other devices borrowed from impure sources, but a free interchange of opinions without passion or prejudice, and with one end in view,—the dignity and usefulness of our profession.’

“We find Abraham Jacobi, M.D., writing about this time as follows: ‘When I said that the changes which have taken place in homœopathy consisted of dropping one article of faith after another, I mean to express no reproach. I was simply stating the fact that no two decennia of homœopathy look alike. From one such period to another the homœopathic literature becomes less credulous, less apodeictic, more medical. The art of diagnosis stands highest in the estimation of homœopaths. The class of men who nowadays are best known in the ranks of the homœopaths are those who are more distant from Hahnemannism than any of the rest. Their talents and studies have been too many to be imprisoned within a sect. How many of them would have been glad to renounce their sectarian name if they had been permitted to do so, cannot be told at present. If there will be no more battle cries of “Crucify!” there will be many more men who formerly had to be called homœopathists, and called themselves so by habit and coercion, who will be satisfied with the honorable name of physician.

“‘All of these men who proclaim their independence of Hahnemannian doctrines, and discard even the name of homœopathy, are still classed as homœopathists. By whom? By us. They *have* been so. They may have been. They claim they are *no longer*. *We* claim they are. What a ridiculous position for us, not for

them. All *they* want is to be let alone in their progress toward medical science. *We* tell them they are outside, and there is no redemption for them. It is we who insist upon the persistence of their sectarian orthodoxy and who are doing the same we see the public doing constantly. We have enlisted the sympathy of the press and public in their favor and improved their chances of recognition by proclaiming loudly our objections to it. Thus we have both injured the professional dignity and influence, and harmed the public. In order to destroy homœopathy and spoil the public's taste for it, we have commenced at the wrong end. Instead of improving ourselves we have excommunicated those who threw systematic medicine overboard; and nowadays when we meet men who in a genial and gentlemanly manner proclaim their readiness to join us, we refuse to let them do it in their own way, and insist upon their professing loudly that they have always walked in darkness and lived in perversity.'

"It was William C. Wey, M.D., who said, 'The circumstances of the profession, however, have undergone a marvelous change. The thoughts of medical men and of the people have been subject to modification through the shifting events of increasing years, and the laws and the opinions which make laws have been revolutionized by the demands of the day and the hour, and the period has arrived, after much expectation, for a revision of the rules applied to medicine which our fathers so guardedly established.'

"Theodore W. Dwight, LL.D., on the faculty of Columbia College Law School, gave the following opinion in April, 1882: 'The State Medical Society [of New York] exercises a right conferred on it by the statutes of the state. . . . It profits by the exclusion of unqualified persons from practice. When the state authorizes practitioners of other schools to practice medicine, does not courtesy to state authority dictate recognition of their fitness for association? How can the State Medical Society consistently demand public recognition by reason of state legislation, and yet deny it to others who have precisely the same authority?'

"Charles A. L. Reed, A.M., M.D., in his presidential address before the fifty-second annual meeting of the American Medical Association, June 4-7, 1901, uttered the following significant words: 'I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its pagan antecedents. It is the product of convergent influences of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception and abandons the accepted truth of yesterday if it only be the demonstrated error of today. . . . It makes no proclamation of complete-

ness, no pretension to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending today, but continuing through the ages. It greets as a friend him who thinks, though he thinks error, for, thinking, he may think truth, and thereby add to the common fund. It heeds all things, examines all things, judges all things.'"

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### BEQUEST TO MASSACHUSETTS HOMŒOPATHIC HOSPITAL.

The Massachusetts Homœopathic Hospital is a beneficiary under the will of the late Miss Helen Collamore of Boston, to the amount of \$200,000 for the purpose of erecting a Collamore building; or, if such building is not needed, the money is to go to the permanent fund for the general uses of the Hospital. Miss Collamore also left \$20,000 to provide for three perpetual free beds to be put in the Collamore ward. The Hospital is also made one of five residuary legatees, the other four being the Boston Museum of Fine Arts, Simmons Female College, Radcliffe College, and the Massachusetts Institute of Technology, to all of which institutions Miss Collamore left large bequests. To Boston University School of Medicine was left the sum of \$5,000.

Miss Collamore was actively interested in art, education and philanthropy, and was one of the trustees of the Hospital.

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### "DEMENTIA PRÆCOX EDITORIALIS."

*The North American Journal of Homœopathy* has this to say about us:

"The many friends of the editor of the *New England Medical Gazette* will regret to see that a few short years at the editorial desk have worn him out, reducing his literary capacity to such limits as seen in his March editorial—'Captious Journalism.' Under the circumstances one cannot hold him responsible for the many inaccuracies and misstatements contained in it."

We will forgive the Editor of the *North American* for his error in diagnosis because he has not been in actual practice for many years. When he saw the word "Præcox" he thought it meant just the same as "Wilcox." There is one marked distinction, however, between the *Gazette* and the *North American*: The *Gazette* is not suffering from such a chronic and exceedingly tiresome attack of Cole-itis that it is actually running behind.

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### DR. HILLIS ON SOCIETY'S DEBT TO THE MEDICAL PROFESSION.

*The Brooklyn Eagle* of April 12th has a three-column report of a sermon given by Rev. Newell Dwight Hillis in his pulpit at the Plymouth Church on April 11th, on the theme, "The Debt of Society to Physicians and Surgeons." Dr. Hillis's introduction is as follows:

"Let us hasten to confess the debt of society to its physicians and surgeons. There are many young men among us who will soon leave the lecture hall, laboratory and hospital to begin their appointed life work, but what is not less important is the fact that every church and minister owes at least one sermon each year in recognition of the bravery and skill of its physicians."

Dr. Hillis pays a high tribute to the medical profession, the reading of which must of necessity inspire every member thereof to strive the more that he may be worthy of the great things expected of him. Get the *Eagle* and read the sermon.

## EDITORIAL.

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Books for review, exchanges and contributions—the latter to be contributed to the *GAZETTE* only and preferably to be typewritten—personal and news items should be sent to *THE NEW ENGLAND MEDICAL GAZETTE*, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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### AMBIDEXTERITY.

Why should humans be any more right-handed than other animals? Is it a result of evolution, environment, heredity; or is it the gift of the speech centre which has brought about this right-handed predilection? If we are to accept the findings of our most careful students in brain localization we must believe that but one hemisphere does the real intellectual work of the brain, and that one is the left in right-handed persons, and the right in left-handed persons. While the other hemisphere is a very necessary and active factor in all motor functionings, yet it is not the intelligent half of the brain.

H. Macnaughton Jones, (Dublin) in his interesting little monograph on ambidexterity says: "Speech and writing involve the highest initiative intellectual processes. Both are inseparably associated with all the component elements which constitute mind."

Gould says: "There is no intellect as we understand it, except through speech, vocal and written, and the instruments of this function exist only in the left brain of the right-handed and the right brain in left-handed."

This appears to be the accepted view of all brain authorities. Incidentally the possession of a speech centre would appear to be the distinguishing feature between man and the lower animals, and as there appears to be an inseparable association between the speech centre and the arm centre, that fact alone might explain man's right-handed tendency and account for the absence of the same in lower animals. It would further appear that while but one hemisphere becomes the educated one, yet there is nothing to show that either hemisphere may not be the one chosen for the intellectual half and that when chosen it begins immediately to take mastery. Such being the case there must be a speech centre capable of development in both hemispheres.

The interesting question now is, why do ninety per cent (as that is the estimated proportion of right-handed people) select the left speech centre as the one to develop?

Sir Daniel Wilson says: "After birth the first instinctive complex manual impulse that issues from the brain is a prehensile one," and he further says that the bias with which the predominant law of dexterity originates must be traced to some speciality of organic structure. But whatever the determining factor may be, it is doubtless true that the question of selection is settled early in childhood, and as soon as the child shows an instinctive preference for the use of the one hand or the other, just so soon does the speech centre on the opposite side begin to develop and take precedence.

Immediately there arises the question, can the opposite speech centre be developed simultaneously and correspondingly? The answer to this question determines the advisability of training children to become ambidextrous.

There are any number of cases demonstrating the fact that an injury producing irreparable damage to the left speech centre resulting in aphasia have recovered, not through a restoration of the damaged cortex, but rather by developing the unused speech centre in the opposite brain. This becomes more possible in younger subjects than in those of advanced years.

Our manual school educators have made clear the fact that brain and hand education go together; that there can be no *perfect* intellectual development in the child without manual education. The well known Montessori Method devised by Dr. Maria Montessori of the University of Rome, is an amplified demonstration of educating the speech centres by educating the hands. Not only does she teach normal children with phenomenal success, by this method, but the mentally defective as well. The first thing which she teaches is the development of the sense of touch through the extreme sensitiveness of the peripheral nerves of the finger tips. This extreme sensitiveness, she believes, diminishes materially after the sixth year; hence the necessity of beginning the manual training early. In like manner she develops all the five senses. Her success in securing intellectuality through peripheral training justifies her theory.

Now if it be true that the speech centre for vocal and written language is the highest index of intellectuality, and if this centre can be developed to a greater degree by manual training in connection with mental drill, why is it not true that by training the growing child to use both hands equally there would be a more uniform mental development with a great mental capacity together with less danger of a premature destruction (apoplexy) of the over-taxed centre?

While one cannot see any greater distance with two eyes than with one, yet there is greater amplitude in the field of vision and the danger of eye strain is materially less than when but one eye is used.

There are a goodly number of examples to show that ambidextrous persons have developed a manual skill which has exceeded that possessed by the unidextrous. Leonardo da Vinci seemed gifted by the gods, for he possessed all the poetical, philosophical, mathematical, scientific, musical and artistic talents in the highest degree, and he was ambidextrous.

Sir Isaac Newton speaks of the "ambidextrous Scythians" as an example of a people inured to labor, fierce in war, of prodigious strength, with great control over their passions. They were further described in the ancient classics as a marvelously long-lived race. The interesting fact about them was that their laws obliged both boys and girls to be trained in the use of both hands equally. Amongst the Japanese, ambidexterity is taught in their schools and practiced in all their arts. This has been their custom from early history. Few people can excel the Japanese in craftsmanship and manipulative skill.

It is said of Lanseer that he drew with both hands simultaneously totally different objects; and few could excel him in the rapidity of his draftsmanship.

Frequently the physician is asked, Should the left-handed child be compelled to use the right hand? To this, modern knowledge can give a definite answer. No; not compelled, but rather urged to use the right hand *equally*, not neglecting by any means the *left* hand. It is undoubtedly true that there are children so markedly right-handed that they cannot acquire the use of the left hand. The reverse is equally true, and to compel such to use their right hand might materially interfere with proper mental development.

Gibson of Edinburgh recites a case of a boy who being left-handed until twelve years of age was then compelled by his parents to use his right hand, (bandaging his left). From that time he began to stammer. Here comes in the natural suggestion, why cannot stammering be cured by an endeavor to develop the opposite speech centre through the use of the other hand than the one instinctively employed? Jackson mentions some five hundred occupations in which ambidexterity comes in as a distinct gain or as an essential factor for success. To the surgeon it becomes almost a necessity to be, in a degree at least, ambidextrous.

As the effort of the educator of the day is to bring physical and mental attainments to the highest possible efficiency, it would seem wise to give careful consideration to the advantages of developing ambidexterity in the young.

## OBITUARY.



**Dr. William O. Mann.**

On Friday, April 9, 1915, Dr. William Orris Mann, who for sixteen years was the faithful and competent Superintendent of the Massachusetts Homœopathic Hospital, died from pneumonia following a surgical operation.

Dr. Mann was born in Randolph, Massachusetts, on October 19, 1869, less than forty-six years ago. He was one of a family of six children. His early education included attendance at the public schools of his native town and at Thayer Academy, from which he graduated in 1887. Two years thereafter, in October 1889, he matriculated into Boston University School of Medicine, and after industriously and creditably pursuing the full curriculum of three years was graduated, and in June 1892 received from Boston University the degree Doctor of Medicine.

Immediately after receiving his medical degree, Dr. Mann was appointed Assistant Physician at the State Hospital for the Insane, at Westboro, Massachusetts, filling the position with credit to himself and advantage to the institution for three years. At the end of this time, in the Spring of 1895, he was selected to fill the position of Assistant Superintendent at the State Hospital for the Insane, Fergus Falls, Minnesota. Here, in one of the largest hospitals of its kind in this country, he obtained the experi-

ence which later was to be needed to serve with such notable success in Boston.

In 1899 Dr. Mann was elected Superintendent of the Massachusetts Homœopathic Hospital, holding the position until his death. For sixteen years he unremittingly devoted the best of his energy, his thought, his time and his life to the interests of the Hospital.

Dr. Mann was a member of the American Medical Association, the American Institute of Homœopathy,—which he joined in 1900,—the Massachusetts Medical Society, the Massachusetts Homœopathic Medical Society, the Boston Homœopathic Medical Society, the Massachusetts Surgical and Gynæcological Society, and the American Hospital Association. At the annual convention of the last named Society, held in Detroit, he was elected its president, an honor highly appreciated by him and one which not only gave him deep pleasure but which testified to the high esteem and regard which the Association entertained for him. He felt the responsibility which was attached to this office, but was looking forward with high anticipation to the next annual meeting of the Association, to be held at San Francisco in June. Dr. Mann also was a member of several Masonic bodies.

It was particularly as an organizer and executive officer that Dr. Mann's ability and force of character found opportunity for worthy exercise. He possessed an unusual business sagacity, and of his administrative ability there cannot be divergent opinions. He loved to have all things methodically arranged, to have all the functions of a great institution thoroughly co-ordinated and capable of the most intimate and frictionless co-operation. No details of management, from engineering, repairing and housekeeping to nursing and the technicalities of medical and surgical treatment were too insignificant to attract his keen and watchful eye. Wastefulness and extravagance could not flourish in his presence. To him the Hospital was everything, and all things connected with it he jealously guarded. He was loyal to its best interests and worked for them with unusual singleness of purpose. Its resources he carefully conserved, and to the enhancing of its reputation he brought unbounded energy, untiring industry, alertness, resourcefulness, self-reliance and initiation.

During Dr. Mann's period of service the Homœopathic Medical Dispensary, which had existed independently for sixty years, became the Out Patient Department of the Hospital (1906); the John C. Haynes Memorial for Contagious Diseases was erected and opened, increasing the capacity of the Hospital by one hundred and fifty or more beds (1908); the Evans Department of Clinical Research and Preventive Medicine was instituted, still further enlarging the Hospital's facilities (1912); the Clark Ward for Children, and the Nash House for Convalescent Men were established; and during the recent months work on the new Maternity Department has been rapidly progressing. In addition to all this, many innovations have been made in the Hospital work, such as instituting an Ambulance Service, an X-Ray Department, and re-organizing the Medical and Surgical Staff. With all these evolutions Dr. Mann's burdens have increased, and with each there has been a corresponding increase in the legitimate pride he has taken in the institution's accomplishments,—an undemonstrative pride which was repressed by a diffidence and a dislike of ostentation.

One side of Dr. Mann's nature may not have been generally observed, on account of a certain brusqueness which was habitual, and that was a marked gentleness and tender sympathy for children which in his hospital inspection had frequent opportunity for manifestation.

In the prime of life, in the very acme of his great usefulness, he was suddenly removed from the field of his activities, and all connected with or interested in the welfare of the Hospital unitedly mourn his loss.

The general executive committee of the medical staff of the Hospital passed the following resolutions upon his death:—

"The first sad page of the record of our general executive committee is that on which is recorded the death of our esteemed colleague and co-worker, Dr. William O. Mann. We desire to spread upon our official record this testimony of high personal esteem, respect for his great executive ability, his integrity of purpose, our appreciation of his admirable

qualifications for the position of chief executive of our hospital, and to express our sense of personal loss sustained through his untimely death.

"*Resolved*, That we tender our heartfelt sympathy to his family in their great bereavement; that these resolutions be spread upon the records of the general executive committee and that a copy be sent to his widow."

Dr. Mann leaves a widow, who was Miss Frances Fairchild of Kasson, Minnesota, and two young daughters.

J. P. S.

## SOCIETIES.

### Massachusetts Homœopathic Medical Society.

The Seventy-Fifth Annual Meeting of the Massachusetts Homœopathic Medical Society was held in Boston on Monday, Tuesday, and Wednesday, April 12, 13, and 14, 1915. The meeting was a very satisfactory and successful one both from a professional and a social standpoint.

The three mornings were devoted to medical and surgical clinics at the Massachusetts Homœopathic Hospital, the Emerson Hospital, and the Forest Hills Hospital. These were all very well attended and proved to be interesting as well as valuable for those present. After the clinics luncheon was served each day at the Boston University School of Medicine.

The afternoon sessions were all held in the auditorium of the Evans Memorial Building, at which the time was given up to the presentation and discussion of a number of excellent and instructive papers by various members of the Society.

On Monday afternoon, April 12, the following papers were given:

Chest Conditions in Children as Seen by Means of the X-ray.

(Illustrated)

Orville R. Chadwell, M.D.,

Assisted by Gardner H. Osgood, M.D.

The Value of the X-Ray in Diagnosis in Intestinal Disorders.

(Illustrated)

J. Arnold Rockwell, M.D.

Assisted by Gardner H. Osgood, M.D.

Preliminary Report on One Hundred Obstetrical Cases Treated by the Scopolamin and Morphin Method of Gauss:

Edwin W. Smith, M.D.

These papers were discussed by Dr. Gardner, Dr. Southwick, and others.

On Tuesday afternoon, April 13, the programme was presented by the Staff of the Evans Memorial Department of Clinical Research and Preventive Medicine. Mr. Mason, of the board of trustees of the Massachusetts Homœopathic Hospital, spoke a word of welcome and Dr. Frank C. Richardson, Clinical Director, made a few introductory remarks explaining the purpose and work of the institution. The following papers were scheduled, but Dr. Rowe was unable to give his because of the lack of time.

I. The Relation of Food-Fish to the Public Health. (Lantern Slides)

David L. Belding, M.D.

II. Report of a Case of Hodgkin's Disease and One of Raynaud's Disease.

W. H. Watters, M.D.

III. A Consideration of the Action of Digitalis in Heart Disease.

Conrad Wesselhoeft, 2nd, M.D.

IV. Splenomegaly, with Reports of Two Cases. (Specimens and Slides)

Helmuth Ulrich, M.D.

Preceded by a discussion of normal splenic function by Dr. G. H. Brownell, and presentation of case records by Mr. N. H. Garrick.

- V. (a) Nitrogen Metabolism as an Index of Assimilation Efficiency; together with a Discussion of the Calculation of Urinary Solids, the Accuracy of the Hypobromite Method for Urea, and the Quantitation of Urine Constituents by the Centrifuge. .  
 (b) The Determination of Arsenic in the Blood.

Allan W. Rowe, M.Sc., Ph.D.

On Wednesday afternoon, April 14, after the business and a very fine neurological clinic, conducted by Dr. E. M. Jordan, Dr. Gilbert M. Mason delivered a paper, illustrated by lantern slides, entitled "Recognition of Rational Treatment in the Care of Weak and Flat Feet." This paper was discussed by Dr. Howard Moore, Dr. Edwin R. Burt, Dr. Carvill, and Dr. W. R. MacAusland. Because the hour for adjournment had already passed, Dr. W. H. Watters did not give his paper on "Cerebro-Spinal Fluid in Diagnosis and Treatment."

At the business session the regular business of the Society was transacted and the reports of the various committees were offered. In the way of new business, the Society took advantage of the opportunity to vote a sum of money, to be determined upon by the Executive Committee and not to exceed the sum of 100 pounds, (English money), for the aid of a new Homœopathic Hospital which has been formed in Neuilly, one of the suburbs of Paris, for the treatment of medical cases. F. W. Derby, of Arlington, was elected to membership in the Society. The chairman of the election committee gave the following report.

G. Forrest Martin, M.D., Lowell, President;  
 J. Emmons Briggs, M.D., Boston, 1st Vice-President;  
 Mary A. Leavitt, M.D., Boston, 2nd Vice-President;  
 Edw. S. Calderwood, M.D., Boston, Recording Secretary;  
 B. T. Loring, M.D., Boston, Corr. Secretary;  
 Thomas M. Strong, M.D., Boston, Treasurer;  
 T. E. Chandler, M.D., Boston, Chairman of Board of Censors.

The two social events were both very enjoyable affairs. On Monday evening a reception was held by the former presidents of the Society at the Boston Art Club, where a most delightful musical programme was heard and appreciated by the members and guests present. The entertainment for Tuesday evening was given up, on account of the very recent and sudden death of Dr. Mann, Superintendent of the Massachusetts Homœopathic Hospital, the loss of whom tended to sadden the whole meeting. On Wednesday evening over two hundred members and their guests assembled at Young's Hotel for the annual banquet. Dr. Chandler, President, acted as toastmaster, and there were short speeches by Dr. Florence Ward of California, Dr. Frank C. Richardson, and Dr. G. F. Martin the president for the coming year. Dr. John L. Coffin, the orator of the occasion, delivered an oration which proved to be exceptional in that it combined the qualities of humor, eloquence, historical truth, and instruction,—an oration worthy of being placed with the archives of the Society for the benefit of future members.

#### *Monday Afternoon, April 12.*

Dr. Chadwell presented a series of X-ray plates, illustrating the differential diagnosis of chest conditions in children, showing cases of empyema, lobar pneumonia, unresolved pneumonia, and bronchial pneumonia.

Dr. Rockwell presented a series of plates illustrating pathological conditions of the intestinal tract and gall bladder.

Dr. E. W. Smith's paper. Discussion.

Dr. Gardner: I would like to ask the doctor what he thinks of the possibilities for the future of this method being used in private practice.

Dr. Smith: I think that it is perfectly possible to use the system in private practice. It is a great deal of a nuisance, however. One ought to have a trained assistant in that case, for you are apt to get tied up in your cases, if you have several on hand at once. As a business proposition or a

money-making proposition, it does not pay. There is no danger involved in it; if you keep track of the heart sounds and other signs, and keep the family out, it can be done. Private home cases are disagreeable for the reason that you cannot be rid of the family. It is not a paying proposition. Dr. Southwick has asked me to say something about failures. We count it a failure if the mother remembers, that is, if there is not sufficient amnesia and she is conscious of what goes on. The attitude of the medical profession is another thing which we have to contend with. If anything happens to a baby before it is 20 years old, scopolamine did it. I do not believe that babies are unfavorably influenced by scopolamine. The baby you saw delivered this morning had been influenced by the drug since 10 o'clock last night. The mother had been given six doses of .01 of a grain each, and the baby cried without any trouble. You do get some delirium in the mother, but the treatment is on the whole pretty sane. If you are going to use it yourself, you will probably have some trouble until you are used to it.

Dr. Southwick: The question has been raised about the use of this in private practice. I think that here is a chance for co-operative treatment. To my mind it is going to prove a field of use for a limited number of experts who can go and look after private cases in the home. In that way it will be made possible for this treatment to be taken into the private homes. Even then it will not be so good as in the hospital, for you cannot be rid of the family and various things interfere with the work. I do believe there is going to be an opportunity for a limited number of men and women to become expert in the use of this system and in the use of nitrous oxide, which is being used now very successfully. Both require some skill and experience. Few of us would care to go to a dentist who used nitrous oxide, unless we were perfectly sure that he could use it skilfully and well. The relief obtained, and the ease with which labor goes on is something marvellous. With that, as with the method under discussion, an expert anæsthetist is required. I am sure that all of us would be thankful to have some such expert to look after the anæsthesia, and the patients are also very thankful for the relief which it offers them. Both systems of treatment are very good, but I think my preference would be for the narcophin.

Dr. Smith: I have only one more thing to say. If any of you are going into this, beware of the newspaper man. He dogs your very footsteps, and if you have nothing to tell him, he will make up a story of his own.

Dr. Chandler: I should like to add that this method is being used practically every day by Dr. Smith, and if any of you wish to see it while here, it is possible to do so. Dr. Emerson is also using the method.

*Tuesday Afternoon, April 13.*

Mr. Mason: This is surely not an occasion when I expected to make a speech, and I will not do so. I will simply say that we are very glad to have you see, and hear of, this branch of this institution. When this was given to us, completely built and equipped, it simply complemented and made a perfect whole of our institution. I hope you will be pleased with it and know how much we think of it as a part of the hospital.

Dr. Richardson: I shall not take up your time by reviewing the work of the Robert Dawson Evans Memorial, Department of Clinical Research and Preventive Medicine, during its years of existence, and it seems to us as though there have been a good many, when as a matter of fact it has been established only since 1912. This institution is still in its developmental period. Our hopes are great; our ambition is, I think, sufficient, and we hope that the results will be satisfying to all members of our profession. I will just quote a few words from the report which appeared in the hospital report, thinking that some of you may not have read thus.—

"To justly appreciate a report on the work of this Department it must be remembered that it is not a hospital and must not be considered from

the same standpoint as are those institutions whose sole function is the healing of the sick.

"The purposes of the Evans Memorial are to furnish instruction to the people in the preservation of health; to seek for improved methods for the prevention of disease and for its cure, and to aid those who may prove worthy in their efforts to secure advanced education in the medical sciences.

"In furtherance of these purposes it was thought wise that free public-health talks should be given in the auditorium; that only such persons should be cared for as it seemed desirable to place under the close observation of the research workers,—for example, cases illustrative of conditions the obscure causes of which may be under investigation, obscure cases for diagnosis, by every approved diagnostic method, clinical and laboratory, and cases the treatment of which shall aid in determining the value of new therapeutic methods.

"These plans have been carried out as follows:

"Since the opening of the institution health talks have been given by speakers especially qualified in the subjects assigned to them. More than 6,000 people have listened to these talks and the information obtained by those in attendance has doubtless been disseminated to countless others."

There is a great deal of question in regard to our experience with cancer work, and it seems desirable that a word be said in regard to that.

"In 1912, as a result of work done in the pathological laboratory, there was isolated from carcinomatous tissue a substance the inoculation of which produce cancer in rabbits, and in repeated attenuated doses seemed to produce in those animals immunity. In an effort to test the possible therapeutic efficacy of this substance, 150 non-operable cases were treated in the house under the close supervision and observation of a specially appointed committee of physicians and surgeons. The results were not such as to warrant further clinical use of the material until more extended laboratory research can be made."

I believe that statement covers the situation to the present time. We are frequently asked, "Has the matter been dropped?" No. Further research will be made at some future time, when we can spare the time of the laboratory workers for such research.

"Much bacteriological and serological work has been done in the pathological laboratory, the results of some of which have been published.

"In the pharmacological laboratory investigations involving an enormous amount of labor have been carried on and the results have been of the greatest value to medical science in general and to Homœopathy in particular."

You will some of you remember Dr. Hooker's very able and very noteworthy paper, read at the meeting last spring. It has created comment everywhere. It seems like a very praiseworthy effort to place homœopathy on a scientific basis, as we understand science today.

"In the chemical laboratory experiments in urea determination have been painstakingly made and their results are about ready for publication.

"A quite extensive series of cases have been treated in an effort to determine the relative value of the various electric modalities in the control of blood pressure and metabolism. This investigation is still in progress.

"Methods of administration and dosage of Salvarsan in the syphilitic neuroses and the comparative value of Neo-Salvarsan have been observed in a considerable number of cases, but the series is not yet sufficiently large to warrant announcement of conclusions.

"Many diagnostic problems have been submitted to us from various parts of the country, and physicians are encouraged to send for observation such obscure cases as in their opinion the facilities afforded by the institution may aid in the interpretation of."

May I say that this invitation is not given with the idea that we are superior, necessarily, mentally or professionally, for making a diagnosis, but this institution provides facilities that the general practitioner cannot have? We have many specialists who are always ready and willing to come to our aid in arriving at a diagnosis. So it is the institution that offers the superior advantages.

"In February, 1914, one of the laboratory workers who had demonstrated his fitness by a year of service was sent abroad for further study, returning in October, 1914, and is now conducting research along lines which promise valuable results.

"Another qualified man for whom European study was made impossible by prevailing conditions is at present taking courses in New York laboratories, where his particular subject is immunology.

"Funds of the Evans endowment are used to defray the expenses of this advanced study, and in this way there is being trained a corps of scientific workers, loyal to the ideals of the Department.

"The value to humanity and the credit likely to redound to our institutions from such work is obvious, and it must be equally obvious that a department devoted to such uses cannot be conducted at a financial profit, or indeed with the expectation of sufficient revenue to pay its expenses.

"It is confidently hoped that further endowment from some source will make possible amplification of the work so auspiciously begun."

I think, that without taking any more of your time, enough has been said to give you an idea of the purposes of the institution. It is not alone the work done, but the opportunity granted to the generation coming on, the opportunity for advanced study, and the securing to our profession men who are equal to any in the professional world, and superior to a good many. We have a long program, which I trust will help you to know what we are trying to do and something of the purposes of the institution, in order that you may aid us in arriving at our object.

*Wednesday Afternoon, April 14.*

Recognition of Rational Treatment in the Care of Weak and Flat Feet.  
(Illustrated)

Gilbert M. Mason, M.D.

Discussion by Dr. Howard Moore.

Dr. Howard wished me to say that he has been called to Cambridge and has asked me to speak in his place. He wished also to express to the Society his appreciation for having heard part of the paper given by Dr. Mason and to say that he thought the Society deserved to be congratulated on having brought to its attention a subject so important as flat foot. Most general practitioners do not realize the prevalence of the condition of weak and flat feet. You have been able to conclude from the numbers Dr. Mason has treated that there are a great many such cases. About one-third of the cases I have to treat are weak and flat feet of some nature. I have been examining the feet of the nurses at the Massachusetts Homœopathic Hospital and at the Newton Hospital upon their coming to start their training in those institutions. I was interested to read an article of Dr. Lovett's in the *Journal of the American Medical Association* in which he spoke of the condition of flat foot or the condition of the arch as being an unsatisfactory guide for determining the condition of the feet. He noted that in the examination of the feet of some 800 nurses in a large general Hospital and from the observation of some cases that he has been able to conclude that in cases which come to him and which he had seen, oftentimes cases proved most able to complete service which appeared flat or had a low arch. Feet which showed high arches and fairly good weight-bearing qualities were often cases which showed trouble first and earliest. From my limited service my conclusions would be the same. I shall have to take exception to Dr. Mason's statement that flat feet are always weak feet. You have all seen the foot of a savage with the arch right down on the ground, which were anatomically strongest possible feet, and which would never have symptoms of foot strain. I think personally that the trouble with most of our feet is their deprivation of normal functioning as designed by the Creator to function. We have to stand on hardwood floors, paved streets, brick walks, and we have to support our feet in order to do this. In order to give the feet protection enough we have to wear a covering which interferes with their normal action. Even when we put on a shoe anatomically good,—and most of us do not put on such a shoe,—we actually distort them.

We make the muscles act in a way that is mechanically wrong, and they cannot therefore perform their function normally. The result is weakness and distortions which cause symptoms. I have had personally very little experience with the Whitman plates. I know men who have used as many as Dr. Mason are almost as enthusiastic as he is. My own scheme is to get them all into as good a shoe as possible. I try to prevent distortion by putting the foot in a shoe which is as good anatomically as any I can find. Then if the foot is one which has been subjected to strain for a long enough time to make it seem advisable to put a support under it, or if the pressure is such as to make a positive support necessary, I use a temporary artificial support. I make the patient exercise as far as I am able. I am personally a good deal of a crank against artificial measures for the feet or backs, when I can control the patients to the extent of developing the supports which nature put there for that purpose and which are better able to do that work than any artificial ones I have ever seen made.

Dr. Burt: I think that the Society is to be congratulated in having in connection with it a man who understands the foot problem as well as Dr. Mason, whose paper and illustrations have been given this afternoon. It is something like fifteen years since I graduated, and treatment of the feet is something of which I heard nothing when I was here. I imagine that there are many here who graduated before, or at the same time, that I did. You probably heard as much as I did about this subject. The question of orthopedics is one to which the general practitioner does not give much attention, not because he is not interested, but he does not have the time to devote to it. I venture to say that if the general practitioner looks back over his cases in the last two or three months, he will find that a large proportion come in the field of orthopedic surgery. You have all probably heard the story of the young man who was trying to decide as to which branch of medicine to specialize in, the nose, the throat, or the feet. He talked the matter over with his father, and after due deliberation his father decided that it was wise for him to take up orthopedics, as everyone has two feet and only one nose or one throat. Everyone has two feet, it is true, and there is a great deal of foot trouble. When I first began to hear of foot trouble, it was called flat foot. After some thought I decided that the pain was due to rheumatism, and I proceeded to treat for same. Of course I got no results. I think if you physicians would inquire into a great proportion of the cases which come to you, you would find that many of them have at some time or other been treated for rheumatism. The foot itself shows very little deformity. When the foot is flat on the floor, everything is at the last stage and it does not always give pain. The foot that gives the pain is the foot which is just beginning to come down, with the stretching of the muscles, and those are the feet which get by all except those who are looking for them. Those are also the cases which by proper exercise and proper shoes may be cured without the use of supports. The question of exercise may be one of two things. It may be wiggling the great toe by a piece of string for a certain number of minutes a day, or it may be the working of a fancy machine which cost a hundred dollars or more. The point of the matter is to put the foot in the correct position and use it. There is no use in putting it in the correct position for a little while, and then put it in an incorrect shoe for the rest of the day. The proper exercise is to walk in the proper way. Flat foot is a deformity. Men who do not realize that fact had better give it up. It is a deformity and you cannot get away from it. If it is such, then the right procedure is to cure it. As an old engineer told me on board a boat last summer, the best cure for seasickness is to sit under an apple tree on top of a hill. So I realize that the best cure for weak and flat feet would be to walk on the hands, but this is a physical impossibility. We cannot rest our feet, but we can put them in a proper position. Those with flat feet walk with a deformity. If they had a deformity anywhere else, they would cure it. The shoes are a great part of the treatment. When you get a person who, either through lack of exercise, or weakness, or age, or a person who is very fleshy, that the weight bearing muscles have to do more work than they are able to do, cannot get those muscles back into condition, you have got to use

some support. The question of using plates is a weary war which is not yet over. It is certainly rational to think that if you have a deformity that it is right to correct it. It sounds well anyway. If you are to correct it all, you must correct the whole deformity. If you have a weak back and only correct the trouble on one side, the work is only half done. So by placing a support under the foot, we are not doing all that we should. Part of the deformity is the pronation, and we have to correct that. The only plate to use is the Whitman,—that is another thing which I believe in thoroughly. When you walk with your toes turned out, they are in a position which is incorrect. I believe that a plate with which a patient can turn the foot out and walk in with comfort is not going to succeed. The Whitman does not allow that. A great deal of the trouble with the Whitman plates is that they are not accessible. I don't think that I am exaggerating when I say that not more than 2 or 3 men in Massachusetts or Rhode Island know how to make it right. Men who are in general practice recommend the patient to go to a surgeon if there is any trouble which surgery will remedy; they send a nervous patient to a neurologist, and a patient with eye trouble will be sent to an oculist. But if there is anything the matter with the feet, they send the patient to the drug store or the department store. Flat feet are the only things for which a physician sends a patient to a department store for a cure. They do not think of the orthopedic surgeon, and we are going ahead in orthopedic surgery as in other branches of surgery. The first thing thought of here is the broken arch, and the proper thing is to put something under it and put it up. That support can be bought in all stores, and let me tell that they do as many things to the feet as there are different kinds. A great many things have been evolved as orthopedics goes ahead, and the Whitman is not a new thing, but it is coming forward because it is getting into the papers and journals. The great point of the Whitman plate is the inner flange which tips up when the weight is in it, and every time you step on it you are putting the foot back into place. The proper thing is to get the Whitman made, and to be sure that you get a cast of it properly. When you have it and have it fitted to the patient you have something really worth while.

Now perhaps you have heard the story of the man who was scheduled to deliver a lecture one evening on Europe. The man who was selected to introduce the speaker also knew all about Europe, for he had been there once, and so he took up about three quarters of an hour in his introductory speech by telling all the things which he knew about Europe. When the speaker of the evening finally rose, he said, "Ladies and gentlemen, you have already heard all about Europe, and so I will now deliver a lecture on bugs."

I thank you.

Dr. Carvill: I want to say that I am sure this deformity begins in the primary school. I have served on the frontier for a great many years, and in all that time I have never seen an Indian or any of the hunters, any one of whom could go 60 miles a day, with foot trouble. The trouble is that our schools are not giving proper physical training, in fact, they are giving less now than they did 20 years ago. The children are simply put into their seats and not allowed to move. It would be better than nothing for them to have a little of it. If they were taught how to stand and walk, and how to use their feet, we should avoid a great deal of this. There is need of prevention of deformity of the feet, for here as anywhere, "an ounce of prevention is worth a pound of cure."

Dr. W. R. MacAusland: I was very glad to hear Dr. Burt's story about the lecture on bugs, for I feel that everything has been said before I got down here. I simply want to recall several things of interest. Dr. Burt has recognized what few do, that flat foot is a deformity. Then there is just one other thing. Dr. Mason and Dr. Burt have been associated with us at the Carney Hospital, and I have never watched the development of any man with as much interest as that of Dr. Mason. He came to us as an interne and he has grasped this situation as regards this matter of foot trouble in a perfectly marvellous manner. Dr. Mason's efforts are not entirely in this field, but in all other directions. Dr. Whitman, who in my

mind is the greatest orthopedic man in the country believes that all publications on such subjects should pass before a board of censors before being published. I think it would be a wonderful thing, because one reads all sorts of articles on feet which ought never to have been published. Of course, the thing is to realize that the trouble is a deformity, and then to correct it. 95 per cent of the knee conditions are due to foot weakness in the start, and I do not appreciate the correction of these by strappings and that sort of thing. I also do not appreciate the treatment some men give pains in the back which come from flat feet. From my previous training, I have learned that the important thing is the correction of the deformity.

The gentleman who preceded me hit upon a very important point. I have been in connection with a hospital in Fall River, and only recently I have gotten the mayor of that town to give me an appropriation to start in that city a corrective school. The children are to be examined by school physicians as regards their backs, knees, feet and so forth. Before this the children have been examined by a physician who has usually had the position through politics. Now they are to be sent to a corrective gymnasium if they are in need of it. This is only a tentative plan as yet. This theory of correction has had, of course, many strong men who have objected to this method by saying that athletics accomplish all that is necessary. I have seen three Harvard men in Cambridge, who have had a great deal of difficulty in after life, when they have had positions in banks and offices, where the exercise is limited. So long as the man keeps up his exercise and running, he does not have any symptoms, but later he has, relatively, a great many more symptoms.

In a corrective school which I have been through, the children are examined and are taught to stand correctly. They exercise for a few minutes a day, and the rest of the day they go to pieces, for they go right back to the old incorrect way. Take for an example, in lung cases. The child stands with chest sunken in and with prominent abdomen. That child is more prone to develop tuberculosis. Again they are following along the effects of weak backs, ptosis and so forth, and we are now working very hard on the abdomen.

I want to thank you for the honor of coming here to speak to you.

Dr. Mason: I think this whole matter is one of observation. I think that men who handle hundreds of foot cases a year realize what the foot needs, and yet at the same time I realize that while one man is working out one plan in one way, another may work out another plan in another way, and both will be getting good results. We are getting good results with the Whitman plates, and I see no reason at present to discontinue the use of these.

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## BOOK REVIEWS.

**A Compend of Obstetrics.** Especially adapted to the use of Medical Students and Physicians, by Henry G. Landis, A.M., M.D., Late Professor of Obstetrics and Diseases of Women in Starling Medical College. Revised and Edited by William H. Wells, M.D., Assistant Professor of Obstetrics in the Jefferson Medical College, Philadelphia; assistant obstetrician in the Maternity Department of the Jefferson Medical College Hospital; formerly Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic; Fellow of the College of Physicians; Member of the Obstetrical Society, etc. Ninth Edition. Illustrated. Price \$1.00 net. Philadelphia, P. Blakiston's Son & Co.

The *Quiz-Compend* is always "a very present help in time of need." It is definite, concise and direct. Much, however, depends upon a well-arranged index. This is an especially good feature of Dr. Landis' Obstetrical Compend. How many busy physicians of today could tell what the "Abderhalden test for pregnancy" is? If he did not know and wished to look it up, the chances are the average physician would not find it mentioned in any

book in his library. Here is a little volume which costs but one dollar and answers practically every question in obstetrics. To be sure, the answer is brief, but it is enlightening.

For instance, the answer to our question or Abderhalden test is "This is a biologic test for pregnancy and depends on the presence of certain ferments found in the blood serum of pregnant animals or in the pregnant human female. This test is considered fairly reliable but is very complex and for the detailed description the student is referred to "Webster's Diagnostic Methods" or other text-books.

A library with a goodly sprinkling of compends is a practical working library.

**Differential Diagnosis, Volume II.** Presented through an Analysis of 317 cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medical, Harvard Medical School. Octavo of 709 pages, 254 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.50. Half Morocco, \$7.00.

Dr. Cabot, in his usual methodical and scientific manner, has in the second volume of *Differential Diagnosis*, collected a number of highly instructive case histories. These are presented in a conversational style which gives the reader the impression that he is having a personal consultation with the author. Each chapter is introduced by a comprehensive but brief discussion of the subject matter relating to the group of cases about to be presented.

It is interesting to note that present-day medical literature is tending more toward a discussion of the concrete rather than the abstract. Nothing can be more practically helpful to the busy physician looking for information than the relation and discussion of cases closely resembling the one upon which he is seeking aid. This book should be in the library of every physician.

**The Vicious Circles of Neurasthenia and Their Treatment** by Jamieson B. Hurry, M.A., M.D. (Cantab.) Author of "Vicious Circles in Disease." With Illustrations, Price \$1.40. P. Blakiston's Sons & Co., Publishers, 1012 Walnut St., Philadelphia.

The second volume of *Vicious Circles* is quite an improvement upon the first volume. There is a much more evident vicious circle in neurasthenia than in many of the other diseases mentioned in the first volume. For instance, take the relationship between chronic colitis and neurasthenia. The author says and says very truly, "Although the whole digestive tract has intimate relations with the nervous system, the colon has specially close relations with neurasthenia. The local and the neurotic conditions appear often to play into each other's hands, as Mathieu points out: "In cases of muco-membranous colitis—a true Vicious Circle appears often to be present. The neurasthenia and the colitis react on and aggravate each other." And again: "The colitis, the pain and the nutritive disorders create and perpetuate the neurasthenia. The neurasthenia in its turn aggravates the colitis. A Vicious Circle is present."

There is a deal of helpful material in this little volume which is worthy of a careful reading.

**How to Collect Money by Mail—How to Write Effective Collection Letters—Testing Copy—Planning a Series—Retail, Installment and Dealer Accounts—Credit System—Collection Schemes and Legal Steps—How Creditors Coöperate to cure "slow pays" and Bad Accounts.** 157 Money Getting Plans Adopted by 42 Correspondents. A. W. Shaw Co., Chicago. New York, 1913.

There is not a physician in active practice who is not interested in the subject of how to collect accounts and particularly how to induce slow debtors to pay promptly, and bad debtors to pay at all. This little volume has a lot of good sensible advice to offer the doctor along these lines. It is no "catch penny" scheme or intricate method or procedure, but simply

the application of good judgment coupled with a thorough knowledge of the disposition of the debtor.

As an illustration the author says:

"Know the Debtor's Mind. Remember that most men *want* to pay their debts, and do not consider any man dishonest until he has proved himself so."

"Do not resort to threats of severity until conditions absolutely demand them."

"The debtor who has been hardened and aggravated by the ordinary 'give-me-money' letter will have a pleasant surprise if you first show him a personal understanding of his case."

"Your cordial willingness to be reasonable will get your money, while the man who flies to early threats waits for his."

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### AN ECHO FROM ACROSS THE WATER.

To the *Journal of the American Institute of Homœopathy*:

It has long been my intention to write and congratulate you on the splendid Presidential Address given by Dr. Wilcox at the meeting of the American Institute in the summer. It is a very high-class creation, and deals with the subjects of greatest interest to thinking professional men, instead of beating the air with views and mutual condolences why things are not as we should like them to be.

The address marks with considerable intellectual vigor various of our present-day difficulties and how to meet them. Such an address could not but tread on the corns of the weak-kneed brethren, and doubtless you will hear something of it. But that is the penalty every reformer has to pay, and if he does not pay it he is no reformer.

Yours very faithfully,

George Burford.

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### PERSONAL AND GENERAL ITEMS.

Dr. Frank W. Patch of Framingham, Mass.,—class of 1888 and professor of Materia Medica, B. U. School of Medicine,—has been appointed to the Board of Consulting Physicians at Westboro State Hospital.

Obituary notice of the late Dr. William O. Mann, Superintendent of the Massachusetts Homœopathic Hospital, whose death occurred on April 9, will be found in this number. Dr. Mann's death followed an illness of less than five days and was a great shock to many.

Boston University School of Medicine has recently received a small legacy from the estate of the late Dr. Virginia F. Bryant (class of 1882) who died in January 1912. This legacy is to be used in aiding women students.

Dr. E. Petrie Hoyle, Director of the Anglo-French-American Hospital at Neuilly, writes as follows regarding the work there:—

"We have typhoid, enteritis, pneumonia, bronchitis, rheumatism, etc. . . . Can put up over fifty.—Good straight Homœopathy.—We have expert pathologists and urinologists of the College de France. . . . We are all praying for the end of the war, and America's firm attitude for the Allies can help to *avoid* bloodshed."

Dr. Mary Parker has removed from Framingham, Massachusetts, to 83 Brattle St., Cambridge.

Dr. Grace Stevens of Northampton, Mass. (B.U.S.M. 1901) has recently been elected president of the Western District of the Massachusetts Homœopathic Medical Society.

Dr. Frederick H. Lovell has for some time been located at 74 Mapes Avenue, Newark, New Jersey. His son, Dr. John F. Lovell (B.U.S.M.

1908) has recently removed from Montana to 109 Park Avenue, Irvington, New Jersey.

Dr. Lydia Baker Pierce (class of 1906 B.U.S.M.) has accepted appointment at the Woman's Southern Homœopathic Medical Hospital, Philadelphia.

Dr. Noble H. Hill (B.U.S.M. 1892) has removed from 189 Huntington Avenue to Garrison Hall, Garrison St., Boston.

Dr. Rufus B. Weaver, who has just completed fifty years of teaching in Anatomy at Hahnemann Medical College, Philadelphia, is to be tendered a reception on the evening of June 3,—Commencement day,—in recognition of his half century of devoted service.

The Commencement address is to be made by Governor Woodbridge N. Ferris of Michigan, physician and educator.

Dr. Geo. H. Coffin (1903 B.U.S.M.) has given up his practice in Northboro, Mass., and removed to Lewiston, Maine.

Dr. Sara N. Merrick (B.U.S.M. 1897) has removed from 83 Reservoir St., Cambridge, to Wellesley, Mass.

FOR SALE: 1 Strong-Ovington high-frequency machine, 1 Betz wall plate with McIntosh Rectifier, in good order. Apply to Business Manager, *New England Medical Gazette*, 80 E. Concord St., Boston.

Dr. Florence N. Ward of San Francisco spent the week of the State Society April meeting in Boston, where she received a most cordial welcome. The courtesies of the Forest Hills Hospital were extended to her on Wednesday, the last day of the meeting, where she demonstrated her methods of abdominal operations to a large and interested audience. Dr. Ward has amply proven her right to be classed as a skilled surgeon.

Dr. Edwin M. Kent, class of 1909 B.U.S.M., writes joyfully from Changli Hospital, North China, under date of March 22 that he is "coming home!" for a short trip. For nearly six years he has been on the mission field in China. On his return in the fall he is to be on the Faculty of Union Medical College at Peking. During his stay in this country he will be at his father's home in Cazenovia, New York, but he plans to be in Boston for the opening of the Medical School on October 7. His classmates and friends will give him a warm welcome.

The report of Dr. T. Franklin Smith, Chairman of the Committee on Homœopathic Organizations and Institutions of the United States, as printed in the last number of the *Journal of the American Institute*, makes very instructive and interesting reading. We have a list of medical institutes of which we can be justly proud.

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### GLYCO-THYMOLINE FOR COLON FLUSHING.

Inactivity of the colon with its retention of fecal matter and consequent distention and interference with the work of the rectum is a prime factor in the causation of hemorrhoids, constipation and, in the event of septic matter in the feces, auto-infection.

The rapid elimination of all septic matter, and the promotion of an aseptic condition of the intestinal canal is within the province of Glyco-Thymoline. One pint of a ten per cent solution at a temperature of 100° introduced well up into the colon will produce a quick evacuation without pain or discomfort. This followed by three or four ounces of a twenty-five per cent solution at the same temperature, retained, will speedily restore to normal conditions by inducing osmosis, relieving pain by its anæsthetic property and promoting a general aseptic condition by its power of cleansing."

LETTER FROM THE COMMISSION ON CANCER OF THE  
MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Editor *New England Medical Gazette*:

Dear Sir:—

You may possibly be aware that for the last five years this Commission has been working as actively as seemed feasible on the question of educating the people and arousing more interest among physicians on the cancer problem. The object being, of course, to call attention to early warning symptoms, and the necessity for treatment with no delay and hence the reduction of cancer mortality.

All our work seems to indicate to us that, at the present time at least, the most necessary thing by far is to improve the attitude of the medical profession towards cancer. Statistics that we have recently collected show that, in this State at least, the physician has his cancer cases under observation for an average of over one year before resorting to radical treatment. Undoubtedly many lives are sacrificed in this country every year by this policy.

In order to overcome this condition we have devised the following plan in which we most urgently request your coöperation. Our plan is as follows: We hope to induce every medical journal in this country to publish a special cancer number simultaneously. For the monthly journals this is to be for the July issue; for the weeklies this is for the first issue in July. It is not necessary that all the original articles be devoted to cancer but we hope that at least three or four articles may be. Second, we hope that each journal will contribute one or more strong editorials on this cancer campaign, its aims, importance, etc. Third, in order to call special attention to the subject we are asking each journal to contribute a full page advertisement as enclosed. We wish to say at once that the last paragraph is entirely at the pleasure of the various editors. We in no way desire its insertion for ourselves, but we thought some editors might wish to include it as an explanation of the movement. We earnestly hope that your valued Journal will join in this plan.

We feel that if we can secure the coöperation of all our American journals that it will mean the greatest result that has ever been accomplished in this connection in any country. We believe, too, that such a movement will redound very much to the credit of American Medical Journalism both in this country and abroad.

We have already obtained full coöperation in this matter by the *New York Medical Journal*, *The Medical Record*, *The American Journal of the Medical Sciences*, *Surgery, Gynecology and Obstetrics*, and *The Pennsylvania Medical Journal*. Dr. W. L. Rodman, not as one of our members, but as President of the American Medical Association is already preparing two articles for our cancer numbers.

We may say, too, that as a subsidiary part of this plan we are writing to every county society in the country to try to induce them to hold a cancer symposium in June. We feel that cancer symposiums all over the country in June, to be followed by a flood of cancer literature the following month, will have an effect which will last for years. We believe that it will place the American medical profession above reproach in this detail and above all that it will lead to the saving of hundreds of lives by inducing earlier radical treatment.

We sincerely hope that you will give your cordial aid to this plan and join the movement with your Journal in July. We will much appreciate an early favorable statement from you on the matter as every journal that comes in will furnish a valuable argument to those who hesitate.

We hope that you will command any of our Committee if we can be of assistance and with assurances of our marked consideration, we remain,

Yours very truly,

The Commission on Cancer of the Medical Society  
of the State of Pennsylvania.

J. M. WAINWRIGHT, Secretary.

(Acting in coöperation with this movement, the *Gazette* plans to make its July issue a Cancer number.)

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### NATIONAL EFFORT TO IMPROVE TEACHING ON CONSUMPTION AND TO HELP FAMILY DOCTORS.

For the purpose of securing more coöperation from physicians and nurses in the anti-tuberculosis campaign, The National Association for the Study and Prevention of Tuberculosis has inaugurated a movement to bring the importance of this subject to the attention of these two groups, according to an announcement made from headquarters today.

Among the first things which the Association is trying to do is to induce the medical colleges and schools of nursing to give more instruction, particularly of a clinical nature, on tuberculosis. An effort will be made also to reach the individual practitioners and nurses by special booklets prepared for this purpose. The clinical and other facilities of the various organizations affiliated with the National Association will so far as possible be made available for the widest possible use in training doctors and nurses in tuberculosis work.

"The object of this campaign," says Dr. Charles J. Hatfield, Executive Secretary of the National Association, in making the announcement, "is primarily to secure more accurate and earlier diagnosis of tuberculosis on the part of physicians and to show nurses the great opportunities of service in the home care of consumptives. We shall also be able to put the average family physician in touch with the best methods of treating tuberculosis and with the most recent literature on that subject, thereby affording to the general public increased protection from this disease. Practically all of the medical colleges and schools of nursing of the country have expressed their approval of our plan and have offered to coöperate with us. While the medical profession generally has unselfishly assisted the nation-wide campaign against this disease, we feel because of its prevalence, tuberculosis should be given special attention by medical students and practicing physicians everywhere. No other single disease demands so much time and attention from the general practitioner in medicine. We shall try to make it easy for any doctor or nurse to acquire a specialized knowledge of tuberculosis."

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS.

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### ANNUAL ORATION BEFORE THE MASSACHUSETTS HOMŒOPATHIC MEDICAL SOCIETY, APRIL, 1915.

By JOHN L. COFFIN, M.D., Boston.

Three-quarters of a century ago on Christmas Eve, three gentlemen, physicians, members of the Massachusetts Medical Society who had become interested in a comparatively new method of prescribing drugs for the cure of disease, met at the house of Dr. J. P. Spooner of Dorchester to talk things over and exchange experiences. These gentlemen were Dr. J. P. Spooner of Dorchester, Dr. J. F. Flagg of Boston, and Dr. Charles Wilde of Brookline. On January 7, 1841, a second gathering was held, at which were present Drs. Samuel Gregg, Spooner of Dorchester, Milton Fuller of Scituate, Wilde of Brookline, Weld of Roxbury, and an invited layman, a Mr. Robinson of Brookline. The record of this meeting says:—"The time was passed in conversation on Homœopathy."

On February 2, 1841, a third meeting was held, of practically the same gentlemen, at which it was resolved:—

"That it is our desire and intention to form ourselves into an association for the purpose of investigating the doctrines and practice of the new system of Therapeutics called Homœopathy."

Two gentlemen were appointed to draft a Constitution and By-Laws, and they reported on February 16, the following:—

Articles of Association:—"We, the subscribers, being convinced that there is much truth in the doctrines of Homœopathy, as taught by Hahnemann, and being satisfied by our own experience of the superior efficacy of the Homœopathic treatment of disease, in comparison with the common practice, do therefore hereby agree to form ourselves into an association for mutual improvement in the science and art of Homœopathy and to adopt the following Constitution and Laws."

Then follows a very simple constitution of seven articles and three by-laws. The most important and significant of these are Article I, by which it is named the Homœopathic Fraternity; and Article 2 of the constitution, which provides that a member to be elected must be a member of the Massachusetts Medical Society or eligible thereto, thus showing that in order to investigate the claims and value of this method of practice, one had to be in other respects a qualified practitioner of medicine. This constitution and these by-laws were signed on February 16, 1841, by Samuel Gregg of Boston, I. F. Flagg of Boston, John B. Spooner of Dorchester, Charles Wilde of Brookline, William M. Cutter, and on March 2 by Luther Clarke of Boston and C. M. Weld of Roxbury.

These seven physicians may well be called the Pioneers of Homœopathy in this immediate locality. For the remainder of their lives they labored unceasingly and indefatigably for its advancement, and to this action of theirs this Society owes its existence. All honor is due them.

This organization under the name of The Homœopathic Fraternity existed practically without change of character until July 7, 1851, when it was voted that: "This society from this date shall bear the name of the Massachusetts Homœopathic Medical Society." New and more elaborate Constitution and By-laws were adopted.

In 1856, a charter was obtained from the Legislature, and the present Society was incorporated. At the same time a charter for a dispensary was obtained. At the time the name was changed in 1851, the Homœopathic Fraternity had fifty-one members. It was my privilege in later years to know only three,—Dr. T. S. Scales of Woburn, Dr. David Thayer of Boston, and Dr. Hiram L. Chase of Cambridge. Dr. Chase was for many years the only surviving member, and passed on only last year. I knew him for many years, as he was one of the first of the older physicians with whom I became somewhat intimately acquainted in my youth, and I wish to say thus publicly that I have never known a more honest, kindly gentleman or a more conscientious physician.

On January 30, 1855, the first move was made for the establishment of a Homœopathic Hospital, for on that date, on motion of Dr. Sanders, it was voted to appoint a committee to draft a petition to the General Court for a "charter for a Homœopathic Hospital" to be located in Boston. Drs. Jackson, McFarland and Scales were chosen on that committee. A charter was granted in that year, 1855. The first Hospital was opened in Burroughs Place on January 23, 1871 (16 beds), and the present building in 1874, which, as you know, has been enlarged from time to time; in 1908 the John Haynes Hospital for Contagious Diseases was built, and in 1911, thanks to the labors of Dr. Frank C. Richardson, the Evans

Memorial for research work. The Hospital now has, in all departments, 400 beds; and a Maternity under construction, to have 82 beds.

In 1883, the Legislature, under influence exerted by this Society, established in the old building previously used as a reform school in Westborough, an insane hospital, in which, according to its charter, the method of practice known as homœopathic is to be used exclusively. This being the first Homœopathic Insane Hospital in New England, it opened its doors in 1886, with a staff of three, and 44 patients. It has to-day ten buildings devoted exclusively to patients: a staff of ten physicians and an average population last year of 1237.

This institution is acknowledged to be one of the best classified in the country, and I believe stands well in comparison with other similar hospitals in the State. There are other hospitals in the State either completely under homœopathic administration, or where there is homœopathic representation on the staff.

At the semi-annual meeting held on October 2, 1872, Dr. I. T. Talbot made this resolution:—"Resolved that the interests of the community and the progress of medical science demand that a medical college should be established in New England on a broad, comprehensive and permanent basis, in which physicians may be educated in the principles and practice of Homœopathy as well as in all the collateral branches of medical science, and for this purpose we pledge the influence and assistance of this Society so far as may be consistent with its legitimate object, and we solicit for it the active coöperation and aid of every member of the medical profession."

This resolve was adopted, and a committee consisting of Drs. Thayer, Talbot, C. Wesselhoeft, Woodvine, Morse, Woodbury, and T. S. Searles, were appointed to carry out the objects of the resolution.

At the April meeting in 1873, Dr. Talbot reported that Boston University had offered to receive the Medical School as one of its departments and the acceptance of that offer; the probability of obtaining the New England Female Medical College property on payment of its debts, amounting to \$42,000,—\$30,000 of which had already been raised. The need of raising the remaining \$12,000 was urged. Evidently this was accomplished, as the College opened its doors to students in the Fall of 1873. It has graduated since that time 1111 men and women, and almost without exception they have been men and women commanding respect and confidence of the various communities in which their work has called them.

I have tried thus far briefly to point out those things which have been more or less significant as showing the growth of this

Society in power and influence. They pertain, however, almost wholly to what I may be allowed, perhaps, to call the physical growth of the Society. How about its spiritual growth? Have we kept the faith? Let us see.

In reviewing the professional work of the Society, one sees at once a great difference between that done by the Homœopathic Fraternity, embracing a period of ten years, from that of the incorporated Society.

The Homœopathic Fraternity was not in a strict sense a Society; it was a "Gentlemen's Agreement," a medical club with only one permanent officer,—a secretary. They formed themselves into an association "for mutual improvement in the science and art of Homœopathy," and they stuck religiously to their job. There was no regular order of procedure; there were no written and prepared papers for the meeting until July, 1853, two years after the change of name, when it was voted that two members should be selected at each meeting to prepare papers for the succeeding meeting.

These gatherings were really "experience meetings," where every member present told his success or failure in the treatment of cases with homœopathic medicines. They took counsel one with another for mutual benefit. These cases were related with a thoroughness, with a fidelity, with a degree of symptomatic detail that is truly remarkable. I can conceive of no better opportunity for the study of homœopathic therapeutics for a student in medicine than would be afforded by a perusal and study of these reports. Here there was a body of educated physicians who for ten years devoted their best mental efforts to the one subject, Homœopathy; for them, "the 'remedy's' the thing." As one reads over these remarkable records, one can but feel that they achieved an accuracy in prescribing and a success in results, that would put many of us modern homœopaths to shame were we honest with ourselves. They indeed kept the faith, and they reaped their reward in an ever-increasing belief in the efficacy of the homœopathic remedy.

Two things may be of interest that appears in their records. First, for five years from the beginning, there is no mention of the subsequently much debated question of potency. In 1849 there were reported these interesting statistics:—

115	cases of cholera with 15 deaths
318	" " cholera " 3 deaths
1170	" " dysentery " 31 deaths

After the incorporation of the Society in 1856, business was managed upon a much grander scale. Permanent officers were elected each year, quite an elaborate constitution and by-laws were enacted for their government, and from a study of the records,

it would seem that a not inconsiderable portion of the time of the meetings was occupied in amending and perfecting and disputing about these by-laws, until it became almost a fixed habit.

The professional work was divided into various sections, or bureaus. There was at first a Bureau of Materia Medica, whose business it was, according to By-law 9, to "select medicines for proving and shall at the expense of the Society obtain and distribute the same to its members, etc., etc." There was a Committee on Clinical Medicine, who should investigate and report on any epidemics occurring and "such other facts relating to the practice of Homœopathy as they may deem important."

The next Spring, May 7, 1857, the first paper on a surgical subject was presented, and the Society held its first dinner.

The Committee on Materia Medica seems never to have accomplished much in the way of provings, but did report much of value at each meeting, the procedure apparently being to report quite minutely the action of one or two drugs, and then the various members were called on to relate their experiences, if any, with those drugs.

At the annual meeting in 1868, it was voted to establish a chair of Surgery and Obstetrics so that from this time on, the efforts of the Society were not confined as originally intended, solely to the "Science and Art of Homœopathy," but to medical domain in general. Nevertheless, for many years after this date, materia medica and clinical medicine formed the great bulk of discussion at the meetings, and the work of the Committee on Clinical Medicine was confined to the recital of cases treated with the homœopathic remedy. The high-tide mark in this direction seems to have been in 1874 and '75, when the committees on Clinical Medicine reported twenty-five papers each year. Very gradually from this time, or a few years later, these bureaus so essential to Homœopathy have occupied less prominence in the society work, and those departments devoted to general medicine and surgery especially have increased until in the last decade Homœopathy *per se* seems to have been conspicuous by its absence, in the programs of the Society. The same seems to be true to a large extent in our Hospital. Originally established to demonstrate the efficiency of the homœopathic method of prescribing drugs, it is to-day largely a surgical hospital. According to the 1914 report, it has on its Medical Staff, exclusive of consultants, 13 physicians; while the surgical staff, including surgical specialists, numbers 37. The number of medical cases treated in the main hospital was 789 as against 3,503 surgical; but even if we include the Children's and Contagious Departments, including 1,079 infants in the main hospital, which would be, perhaps, a more just comparison, we find the total

to be 3,393, or 110 less than the number of surgical cases treated. That this tendency was foreseen by some of the wiser of those early pioneers is shown by the following:—At the annual meeting in April, 1871, after the report of some surgical cases, Dr. De-Gersdorf presented the following:—"Resolved, that the reports of the surgical cases in future, should be only of such cases as those in which Homœopathic treatment has superseded or limited an actual mechanical operation." This resolution was warmly seconded, in some vigorous remarks by the late Dr. Conrad Wesselhoeft. After a very earnest and vigorous discussion, the resolution was lost. The general opinion being well expressed by Dr. Swazy of Springfield when he said:—"It must not be forgotten that we are a society of homœopathic physicians and not merely a homœopathic society."

Those words are eminently more applicable to-day than they were when they were spoken over forty years ago. The action of the Massachusetts Medical Society excommunicating those practicing Homœopathy; the medical and to a certain extent social ostracism which followed, made it absolutely imperative that Homœopaths should prove themselves, first, competent physicians and, secondarily, believers in the Law of Similars. Wisely, I believe, recognizing this fact, the founders and Faculty of our Medical School have always endeavored to graduate competent physicians, as well as homœopaths, and their success is amply exemplified by your presence here to-night.

To summarize briefly, then, in the beginning, drug selection and action was the all important object of study; of later years it has become of secondary importance. *Apparently* as a result of this, certain things have come to pass. There is a popular idea that there is practically no difference in the two schools to-day. There seems to be a growing restlessness among some of the younger and brighter minds among us that there is no longer reason for our existence as a distinct society.

Bear with me a little in my endeavor to show that these conditions are the natural result of medical progress and development and have nothing to do with the rise or fall of Homœopathy.

Permit me to read once more from the records of the Society. At a meeting of the society held February 19, 1856, I find this record:—

"The secretary read a case of puerperal disease reported in the last number of the Boston Medical and Surgical Journal, in which during the last three days the following treatment was resorted to:—

1 simple enema;

1 enema of molasses and water;

warm water infusion to vagina;

warm water applied to abdomen and vulva ;

2 blisters ;

1 sinapism.

Opiate Fomentations.

1 dr. castor oil ;

16 dr. blood withdrawn by venesection ;

10 grs. Comp. ext. Colocynth ;

5 grs. Sulphate of Morphine !

27 grs. Opium ;

64 grs. Calomel.

Brandy and Laudanum (in quantities not mentioned) every fifteen minutes for seven and a half hours, or till the patient died!!!”

Compare this with the homœopathic treatment of a similar case at that time by the administration of the appropriate remedy and the application of hot or cold compresses, and you see at once there was a contrast which the onlookers could appreciate. Granting the same result, in either case, there is all the difference, evident to everyone, between being hustled into Eternity by an eight-cylinder motor exceeding the speed limit and being allowed to drift out on to that infinite sea with the gentle ebbing of the tide. It is within the memory of many of us when to administer a dose of castor oil to a husky child of six or seven required the combined strategy, and not infrequently attack, of the whole family,—front, flank, and rear,—to accomplish the result ; but to-day trained, as he is from early months, to saccharine indulgences, he almost unconsciously swallows a chocolate-covered capsule and the good work goes on. Forty years ago the complex, compound nauseous mixture of the “Regular” came in competition with the nearly or entirely tasteless simple single remedy of our school, and there was a contrast easily appreciated by the public. To-day the “Regular” prescribes the single remedy or simplest combination, attractively made in pills and tablet not unlike those used by us, and to the public a tablet is a tablet,—whether it contains one-sixtieth of a grain of Strychnia or a quarter of a grain of Morphine, or a grain of the 12th centesimal of Sulphur. To them “a primose by the river a yellow primrose is,” and “nothing more.” They do not know the principle on which the pill or pellet, the tablet or capsule, is prescribed ; neither do they care, and is it surprising therefore that in the lack of contrast in the appearance of the medicine and lack of knowledge of the method, they say unto themselves, “It’s all alike!”

Forty years ago almost the only known way of combating disease was by the administration of drugs. Surgery was, comparatively speaking, in its infancy.

The discovery of asepsis and the developments following therefrom have rendered possible surgery unthought of in the fancy of the most quixotic imagination of those days. The development of the X-ray has in many cases rendered a most obscure diagnosis a certainty, so that to-day the surgeon attacks the problems submitted to him with a certainty of what is before him unknown in any other branch of medicine. Many diseases formerly blindly attacked by drugs are now relegated to the domain of surgical procedure with almost a certainty of cure.

Is it any wonder that many of the brightest minds among our graduates are attracted to this department of medicine which offers such definite work and achieves such brilliant results? I have no quarrel with the surgeon. His energy, his industry and his skill command my greatest respect. Nevertheless, it is to be regretted that equally gifted minds should not have been tempted to work with equal industry in the more abstruse field of drug action on the healthy and drug effects on the sick.

In the dawn of civilization, diseases were due to the machinations of the Devil; later they were visitations from God to punish us for our sins, and to be borne with fortitude and humility. Then they were due to the preponderance of deficiency of some one of the humours of the body. Again, they were due to various things fantastic or otherwise, pertaining for the most part to environment. Within my own recollection malaria was due to miasma, diphtheria to bad drainage, typhoid to excessive drought or following periods of excessive heat, etc.

To-day, thanks to Koch and Pasteur and their followers in research work, we know definitely that these diseases are due to certain specific living micro-organisms and, not only that, but we know definitely their life history and the means of their transference from one individual to another, or one community to another. Hence has arisen another great department of medical science,—that of preventive medicine.

The future possibilities of preventive medicine seem almost limitless. When the general public shall have become educated, as it will,—when communities shall have been roused from their torpor and apathy toward matters pertaining to the preservation of public health,—when the scientist shall have superseded the politician in public office, as he surely will,—then many of the diseases which, in times past, have been veritable scourgers of humanity, will become largely a matter of historical interest.

The wise physician of to-day, of whatever school, tries indefatigably by watchfulness and timely advice to prevent the disease which he was formerly only called on to try and cure.

I have tried to show that whereas fifty years ago, the admin-

istration of drugs was the chief means the physician had to combat disease, to-day it occupies comparatively a small part of his duty in that direction. In the early times of which we speak, the contrasts between the methods of the two schools of practice was great, marked and evident to anybody,—everybody could see it. To-day, with the great resources of modern surgery, with the wonderful advances in preventive medicine, with the more exact knowledge afforded us by the laboratory of vital processes going on and of their derangement in disease, the great advances in the knowledge of the action of food and drink, and consequent development of the science of dietetics, with all these the common property of both schools, we should not be surprised that some of the younger members of the Society, to whom the days of struggle that are passed are but as a tale that is told, should think that really the action of the drug was so small a part of medicine that it no longer merited the necessity of a distinctive society. I fully appreciate their views, but they are wrong.

For seventy-five years, allopathic therapeutics has run its course from blood-letting and purging and puking, the compounding of many drugs in one prescription, through a period of practically no medicine at all, depending upon the *vis medicatrix naturae*, until they have arrived at the present methods of vaccine and serum therapy. Founded as these are on modern scientific investigation, it would seem as if they may at last have arrived at a safe anchorage, but if so, it is not inconceivable that their ground tackle may have found lodgement in some homœopathic mud beneath the waves of that sea of empirism on which their therapeutic barque has been tossed for so many years. It is yet too early to know definitely whether they have come to stay, or whether they will but erect another tombstone in that therapeutic cemetery which has bordered the high-road of medicine since that road began.

For this same seventy-five years, we have treated sick people, so far as the administration of drugs is concerned, on one principle,—that of the *similia*—and that we have met with some measure of success is evidenced by our colleges, our hospitals, and our societies, by the confidence and esteem of the communities in which we work, and by the respect which is accorded us by our friends of the dominant school. To be sure, we occasionally meet with a “Daniel Hanks,” but thank Heaven it is more and more seldom.

You will remember at that little gathering of brave souls in Dr. Spooner’s house on that Christmas Eve, it was resolved to form an association “to *investigate* the doctrines and practice of Homœopathy.” That night this Society was born; that night in the simple words of that one resolution, the reason for its birth was given, and its life-work ordained. That work has never been accomplished,

and until it is done, this Society has a duty—and a very large duty—to perform. The Society has never *investigated* Homœopathy; it has *promoted* it, and very successfully. Mark you, I say this in no spirit of complaining criticism. As I have hinted above, the various departments of general medicine have developed so wonderfully, so rapidly, in the last half century that our time and attention have been completely absorbed in “keeping up with Lizzie,” and there has seemed to be neither the time, the means, nor the opportunity to investigate.

The time has come; it is here and now that this work must be done if we are to be loyal to our heritage. The time is past when our medical conscience is satisfied with theories, however plausible or apparently logical; to-day we all “come from Missouri” and demand to be shown. Our materia medica for years has been like a vast pile of crude ore waiting for the smelter; some assays valuable,—much worthless. We have scratched out from this pile many a grain of pure metal and occasionally a nugget, but for the most part it remains a mass unwieldy, inaccurate, unscientific and discouraging to one honestly trying to apply it. Beginning, if possible, at the original proving, this mass should be studied calmly, without bias or prejudice, relentlessly; what is improbable, fantastic, evidently the outgrowth of a depraved imagination, should be eliminated; what is left should be reduced to the least dimension commensurate with its real value, and then arranged; not schematically, but naturally, and consecutively as the symptom really occurs, and then it might be possible to get a real picture of the sphere of drug action. Now it is at the best a matter of success in putting together a picture puzzle.

By modern laboratory methods it is possible now to make a physiological proving of a drug on the healthy, to investigate its action on metabolism, on the secretions and excretions and on any changes in the character or compositions of the blood,—work which already has been and is being done so satisfactorily in the Evans Memorial.

As this work goes on, as fast as the materia medica can be freed from the incumbrances with which it is now over-burdened, our remedies should be submitted to the final test of therapeutic efficiency.

With a hospital treating thousands of cases each year, this ought not to be a difficult thing to do; with an accurate record kept of the cases treated; with the symptoms accurately recorded in detail; and with the reason recorded or symptoms emphasized for which the particular remedy was given, and then at the end of every five years these cases were carefully analyzed, it would seem that we would arrive at some results which could be relied upon; it

would seem that the various symptoms by which we prescribe our remedies would be really verified.

One case of pneumonia or ten cases of pneumonia treated by bryonia or phosphorus or iodine or tartar emetic, or what not, according to the indications, means nothing; but five hundred or a thousand cases of pneumonia thus treated might mean everything.

This is work worthy the best effort of any body of men and women; this work systematically, thoroughly, conscientiously, scientifically performed, whatever the result, will command the admiration and respect of the medical world.

Now is the time;—the Medical School with its well equipped laboratories, is training men and women to accurate, dispassionate, scientific observation. This, with the Evans Memorial for Clinical Research, furnishes the means. The Hospital properly utilized affords the opportunity. Thus to-day we have the time, the means and the opportunity. The specific object for which this Society was established lies not in the past but still in the future.

I have infinite hope that when this Society shall celebrate its Centennial, a good measure of this task shall have been accomplished; that that little gathering on a winter's night so many years ago may not have been in vain; and that that medical faith, in which we have believed, and which has served us so well for seventy-five years, shall have been finally scientifically vindicated.

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### DIVERTICULITIS OF THE SIGMOID COLON.\*

By JAMES W. WARD, M.D., San Francisco, Cal.

Anatomists have for a long time called attention to diverticula of the intestines, but the pathological entity known as diverticulitis until recently has not received the attention from the medical profession that it deserves. This statement is confirmed in a reference to a recent publication, "*Les appendicites fantomes et les fausses appendicites*," in which a number of abdominal conditions that simulate appendicitis were considered but no mention was made of diverticulitis.

**ETIOLOGY:** The subject of acquired diverticula has caused considerable controversy, and it still remains unsettled. Writers generally agree that the acquired diverticulum is a hernial protrusion of the intestinal mucosa through a weakened muscularis and that its usual situation is at the point of emergence of the blood vessels adjacent to the insertion of the mesentery.

Fraser states that in the small intestine the acquired diverticula are situated on the mesenteric side of the intestine, while in the

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\* Written especially for the *New England Medical Gazette*.

colon they are found on the side remote from the mesentery. On the other hand, the true diverticulum consists of all of the layers of the intestinal wall.

Meckel's diverticulum is an example of the last type, but affections of this organ will not be taken up here. Any part of the large bowel may become the site of a diverticulitis, excluding the rectum.

The etiological factor in the development of the false diverticulum is the cause of the difference of opinion. According to reports, obesity seems to be a predisposing cause. Actinomycosis and dysentery can usually be differentiated by examination of dejecta. In syphilis a Wassermann and in tuberculosis the reactions will assist.

CLASSIFICATION: Recent writers claim that many of the cases of so-called left sided appendicitis, ovarian abscess and perisigmoiditis were in all probability forms of diverticulitis. Clinically it is necessary to recognize the acute, subacute and chronic forms.

ACUTE FORM: Acute diverticulitis is a condition due to an infection of one or more acquired diverticula of either the large or small bowel. It may be followed by a subsidence of the inflammation, by a perforation of the intestine or by the development of a chronic process. In the acute form the pathological conditions that exist are similar to those found in disease of the appendix.

The following classification as suggested by Brewer appears satisfactory.

1. Catarrhal diverticulitis that subsides under treatment.
2. Empyema of an obliterated diverticulum where the diagnosis is made and the operation is performed before rupture takes place.
3. Comprises those cases where perforation has occurred with the consequent formation of an abscess or the development of a general peritonitis. Perforation of a gangrenous diverticulum into a neighboring viscus is offered by the writer as a supplement to this classification.

In one of the appended reports, an abscess opened into the bladder and formed an entero-vesical fistula. This complication is not an unusual one according to reports in the literature.

CHRONIC FORM: Mayo suggests the name of *peridiverticulitis* for the chronic form which is characterized by the leaking of bacteria or their toxins through the attenuated wall of the diverticulum so that a proliferation of connective tissue results from the inflammatory reaction on the part of the peritoneum.

Mayo has reported a number of resections of the intestine performed for this condition in which the microscopical examination of the specimens removed showed that the process was not malignant but that the tumor mass was due to a fibrous thickening

of the intestine just outside of the submucosa and within the fat of the subserosa. A diffuse infiltration of leukocytes was also present in some instances. Chronic leakage may take place through the diverticular walls and give rise to large inflammatory deposits.

Moynihan states that the condition presents a "mimicry of malignant disease."

Wilson in a recent article reports four cases of carcinoma that followed a chronic diverticulitis according to the microscopical examination, and he believes if specimens of carcinoma of the bowel were carefully examined that diverticulitis would be recognized as a frequent predisposing cause. This has been my experience.

The tumor mass of a chronic diverticulitis simulates a neoplasm and it can often be palpated; if the growth is situated in the pelvis it may be revealed only by rectal examination.

Stenosis is frequently present and it may be followed by a bowel obstruction showing that the process differs in no way clinically from that caused by a malignant growth.

**NATURE OF INFECTION:** Infection may be due to any form of micro-organism; naturally the bacterium coli is the germ most frequently found.

In one of the cases to be reported the infection was due to the entamœba coli and the bacterium coli. In a recent operation of the writer's the infection in the perforating diverticulitis was due to the streptococcus and colon bacillus.

Concretions are frequently found in the diverticula and are the consequence of a previous infection, but they can in no wise be considered an etiological factor.

**FREQUENCY:** Telling has made a careful analysis of all the published cases but as his analysis does not include the subject of acute diverticulitis in particular, the paper will not be considered pertinent here.

Gardner and Sampson in their statistics report but one case of a diverticulum of the small intestine that gave rise to the symptoms.

Both Ewing and Thompson have diagnosed appendicitis and at operation diverticulitis of the ileum was found.

**DIAGNOSIS:** In but few of the cases of acute and chronic diverticulitis that have been reported up to this time, has a correct diagnosis been made. In one of Brewer's cases a diagnosis was made prior to the operation, but as the patient had been previously operated upon, the diagnosis was not a primary one.

The diagnosis of diverticulitis will be made clearer as soon as the medical profession appreciates the frequency of the condition. Acute tumefaction in the left iliac or hypogastric regions may, by exclusion, be suggestive.

**ACUTE FORM:** The patient will present all of the character-

istics that are present in acute appendicitis, but the trouble will usually extend more into the left side than in appendicitis. Frequent urination may coexist incident to adhesions to the bladder or pressure of bowel content.

In one of the cases that the writer is reporting, the condition involved the right half of the abdomen and it extended well into the left side and while the diagnosis of appendicitis was made, it was not made with any degree of certainty because of the extension of the trouble so far to the left. Diverticulitis was also considered. At the operation an abscess of a perforating diverticulum was found and it was thought that at some future time, if similar conditions were present, the diagnosis of diverticulitis would be easily made.

A few weeks later the writer had the opportunity of seeing a patient who presented the counter-part of the condition just described; the dullness involved the lower half of the abdomen and it extended well over to the right and into the left side; peritoneal pain was very severe; abdominal breathing was absent; the temperature was 104.4 and rigidity was marked; rectal examination revealed a rigidity of the pelvic vault more marked on the left side. The diagnosis of diverticulitis was made and at the operation a gangrenous appendix in the center of an abscess was found. This experience goes to show how difficult the recognition of this condition becomes. The writer is not nearly as confident that the condition can be diagnosed as he was before this case came under his observation.

**SUB ACUTE FORM:** The patient may suffer from repeated attacks of abdominal discomfort such as abdominal pain and tenderness that are confined to the lower half of the abdomen. These spells may be intermittent and digestive troubles may exist as they do in diseases of the appendix. Tenderness may be elicited only by rectal palpation, if the trouble is confined to the lower part of the sigmoid. That the pelvis is not an unusual place for this disease is shown by the two histories about to be presented. Furthermore, the symptoms may be confined to the left lower abdomen, or in some instances pain and tenderness may be general.

Acute diverticulitis of the ileum may also occur but the writer is acquainted with no symptoms that make it possible accurately to diagnose this condition.

**CHRONIC FORM:** If a palpable mass is found in a patient who does not have the cachexia of a malignant growth associated with loss of weight, etc., and who does not appear to be seriously ill, this condition must be borne in mind. Intestinal hemorrhage and stenosis may also be present. Persistent anal spitting, excluding hemorrhoids at fissure, should suggest sigmoidoscopy.

The existence of enlarged glands does not exclude a diverti-

culitis, for the glandular hyperplasia may be the result of an infective process. The writer has seen this condition on several occasions where the axillary glands became enlarged in consequence of an infected cyst in the breast.

Diverticulitis of the cecum does occur, as has been shown by Wilson, so that if a tumor is found on the right side, the diagnosis of diverticulitis cannot be excluded.

**TREATMENT:** The surgical treatment of diverticulitis either acute or chronic will naturally depend upon the conditions present. The high enema should be prohibited as inviting perforation and masking the clinical picture.

**ACUTE FORM:** When an abdomen is opened before perforation has occurred and the diverticulum is exposed, the treatment followed by Ewing and Thompson has been to insert the diverticulum into the lumen of the intestine. If perforation takes place with the formation of an abscess, this must be evacuated and the focus of infection exposed; as there is no structure to be removed, drainage by either rubber dam or cigarette drain is indicated, otherwise the treatment is the routine one of abdominal infections. A fecal fistula will frequently complicate the incidence of convalescence. This will close providing the mucosa is not everted or the presence of carcinoma excluded.

**CHRONIC FORM:** Resection of the gut is indicated whether the disease be a chronic diverticulum with inflammatory infiltration or a carcinoma. Obstructive symptoms may require drainage through the establishment of an artificial anus.

The following are histories of patients affording varied clinical details.

1. J. T. M. Age 38; family history negative.

Ten years before while in the Philippines he had an attack of what was presumably amebic dysentery. Since that time he has not suffered from diarrhoea.

About the middle of May, 1909, he began to have pain in the lower part of his abdomen that appeared immediately after eating. Soon the pain became constant. Fever was present. The urine was clear and contained no pus.

May 31, 1909. Pain was constant in the left groin. The patient had been having numerous bowel movements and while at stool he experienced a very violent pain in the left side that was so severe that he collapsed. He was pulseless but not unconscious.

June 4. Temperature 104; the patient felt that "something ruptured," after which the urine became loaded with pus. He does not know if feces were present in the urine. Cathartics aggravated the pain that was constant in the left groin. The fever persisted.

June 6. Pain was not so severe; temperature 101.

June 19. Feces discovered in the urine. Gas was expelled through the urethra.

July 2. The patient came for surgical attention.

EXAMINATION: While the patient was being questioned, he would start suddenly, place his hand on his side and explaining that his discomfort was caused by the passing of flatus that would later be expelled through the urethra.

PALPATION: Palpation revealed a mass irregular in outline at the region of the sigmoid which could be felt contracting. This area was dull upon percussion.

RECTAL EXAMINATION: Rectal examination did not reveal an enlarged prostate but there was a mass, smooth in outline, that could be felt to the left of the rectum and that extended as high as the finger could reach. During the examination the patient expelled a considerable quantity of flatus through the urethra; the escape of the gas was accompanied by a loud noise that could easily be heard all over the room.

CYSTOSCOPIC EXAMINATION: An opening through which fecal matter was seen escaping was seen on the upper left side of the bladder. The opening was hyperemic and was surrounded by a wide area of edematous tissue.

URINE: Examination of the urine revealed large quantities of the motile ameba coli, and the diagnosis was made of a diverticulitis of amebic origin that had perforated into the bladder; it was also loaded with feces. The diagnosis of amebiasis was confirmed by the United States Marine Hospital Service.

July 12. Temperature 104.5; this rise had been preceded by a very severe chill.

LIVER: The liver extended as high as the upper 4th rib; respirations 30; the pulse was exceedingly weak. The patient presented the signs of a profound sepsis.

The diagnosis was made of hepatitis bordering upon the formation of a liver abscess. The patient was given the *ippecac treatment* that was continued until the liver regained its normal size.

July 13. A colostomy was made to divert the fecal current from the bladder.

July 25. The liver was found to be normal in size and the general condition of the patient was much better.

Sept. 20. The patient was improving rapidly but he still felt fluid passing from the bowel into the bladder during the irrigations that were being carried on through the colostomy.

Jan. 1, 1910. A cystoscopic examination made showed that the opening into the bladder had closed.

Jan. 11. Operation.

The colostomy was repaired by resecting the intestine and then

making a lateral anastomosis. At the operation the sigmoid could be separated from the bladder, and the adhesions present made it easy to recognize the point of the former perforation.

The adhesions and the pathological conditions that were present confirmed the diagnosis that the perforation had taken place between the sigmoid and the bladder.

One has ample reason to assume that the process was due to a diverticulitis because it is the only condition now recognized from which such a complication could arise.

At this time the appendix was removed and the fresh scrapings of the mucosa did not reveal any traces of amebae.

Jan. 1, 1911. The patient is now restored to perfect health. His urine which was formerly full of pus and feces is now absolutely clear.

#### CASE 2.

F. G. S. Age 51; previous history negative.

During the past year the patient has had intestinal trouble, suffering from symptoms such as chronic appendicitis produces.

Sept. 11, 1914. While at stool the patient experienced a severe pain in the lower part of his abdomen which he described "as if something had been torn open"; this pain was followed by a bowel movement, the character of which was unknown. Following this his abdomen became very tender, which was aggravated when he arose to stool; he was sent to the hospital and was administered a dose of castor oil which he vomited; he had three large liquid evacuations which were seen by me; while they were dark brown in color they showed no microscopic signs of blood; temperature 102.8°; pulse 118; 23,000 leucocytes, 85 per cent. of which were polys. There was very marked rigidity over the left half of the abdomen.

Rectal examination revealed a thickening of the entire pelvic vault; not particularly tender to pressure; patient could move in bed without suffering severe pain. Diagnosis of diverticulitis was made and operation was advised.

An incision through the left rectus was made and as soon as the peritoneal cavity was opened a considerable quantity of brownish fecal looking fluid was evacuated; the intestines were agglutinated over the left half of the abdomen; from one point a profuse purulent fluid poured forth. The intestines were separated and a large patch of fibrinous exudate was seen in the floor of the pelvis 1½ to 2 inches in diameter, from which there was some escape of this dark fluid; this was evidently the site of the perforation, and while the field of operation was being sponged, just as the last loop of intestine was separated, a terrific hemorrhage occurred, probably due to the necrosis of some of the mesenteric vessels which

were torn from the slight manipulation of the intestines. Rubber dam was inserted about and within the opening to prevent adhesions of gauze to intestines.

Bleeding was very profuse and it necessitated the introduction of several moist salt gauzes before it could be controlled. It was not possible to demonstrate the diverticulum, but unquestionably this was the only condition that could have produced these symptoms. Convalescence was stormy but recovery eventually took place.

Dec. 1, 1914, which was 3 months after perforation had occurred, the patient presented himself with the statement that he was having difficulty in emptying his bowels. An examination showed that he had a large tumor the size of a mandarin orange projecting from the anterior wall of the abdomen to the right of the incision.

Diagnosis of carcinoma was made and a piece snipped off was examined microscopically and confirmed the diagnosis. An attempt was made to remove the mass but, as was expected, this part of the intestine was absolutely immovably fixed on account of the adhesions. A permanent colostomy was then made. In my opinion this carcinoma was the direct result of the diverticulitis. The persistent use of the X-ray has materially reduced the mass and promises more.

INTERNAL MEDICATION: Accessory to surgical care I have found the following remedies distinctly helpful, thereby avoiding disturbing palliatives.

BELLADONNA: Severe pressure in hypogastrium now here, now there. Fine shootings in left groin, worse doubling up. Tenderness to slightest pressure. Rumbling in and distention of abdomen. Especially indicated in acute cases.

BARYTA CARB.: It has served me well in a chronic case, carcinoma following an acute diverticulitis. Abdomen felt hard. A distention in lower abdomen both seen and felt, aggravated when lying on his back. *A pressure within the abdomen also noticeable only while lying.* Fullness above the pubis as if everything were stopped and the abdomen would burst, relieved by a stool. Stool is difficult. Bloody mucus.

I believe Baryta Carb. is to be thought of in carcinoma of the pylorus or sigmoid colon.

MEZEREUM: Griping and sticking starting from below navel and extending towards left groin with tension, transiently relieved by drawing up the legs and by passing flatus.

Deathly anxiety with abdominal constriction relieved by eructations.

In one case great relief was obtained from Mezereum, indicated by the nightly anxiety, internal abdominal chilliness and on *attempt-*

*ing to sleep, would start up with a clammy sweat.* It was several days before I could find the remedy, but after a few hours' use of Mezereum the symptom never returned.

COLOCYNTHIS: Resembles Mezereum in the relief of passing flatus or soft stool and flexing left leg on abdomen. It differs by the symptom complex. In Colocynth a deep boring and contraction in left iliac region is felt with distension, ending with a stitch towards the left pubic region. Bruised pain aggravated by walking. Tension in iliac fossa, developing into a drawing which passes from groin into anterior thigh, left side. Symptoms became increased by eating, deep breathing and pressure.

MAGNESIA PHOS.: Will relieve pain where the patient lies crooked and is relieved by external heat. The opposite of Calcarea in peritonitis, which is relieved by cold applications.

#### CONCLUSION:

1. The acute and chronic forms of diverticulitis are not uncommon. The symptoms are those of peritoneal involvement.
2. Unless microscopic examination is made of a colon tumor, chronic diverticulitis cannot be excluded.
3. Bacterium coli is the germ most frequently found in suppurative diverticulitis.
4. Processes confined to the left side will frequently be correctly diagnosed if diverticulitis be considered. It may, however, be right sided.
5. Enlarged glands do not prove conclusively that a malignant growth is present, as a glandular hyperplasia can be the result of an infective process such diverticulitis.
6. When a perforation occurs in the course of a diverticulitis the patient generally describes the sensation as if something had burst or was being torn in the region of the rectum.
7. An entero-vesical fistula is not an uncommon complication of a perforating diverticulitis.
8. Carcinoma is not an uncommon sequel of a chronic diverticulitis.

THE ORIGIN AND CONDUCTION OF THE CARDIAC  
IMPULSE; ITS DIAGNOSTIC, PROGNOSTIC AND  
THERAPEUTIC IMPORTANCE IN DISEASES  
OF THE HEART. II.

By CONRAD WESSELHOEFT, 2ND, M.D.

THE NERVOUS SUPPLY OF THE HEART.

(See May number for Paper I.)

No discussion of the pharmacology of the heart can be entered into without an understanding of the nerve supply of this organ. We have two sets of afferent nerves which supply and control the heart from the central nervous system. The first set, constituting the inhibitory apparatus, consists of the vagus nerves; the second set, constituting the accelerator apparatus, consists of branches of the sympathetic system which take their origin through the second, third and fourth thoracic nerves. These two sets of fibres pass side by side into the cardiac tissue and there anastomose with one another to form the cardiac plexuses.

Let us first turn our attention to the function of the two vagus nerves. The cardio-inhibitory center lies in the vaso-glossopharyngeal nucleus in the medulla oblongata, from which center constant stimuli of inhibitory influence pass to the heart. The familiar result of section of the vagi is, therefore to increase the heart rate by removing the inhibitory influence, and, furthermore, stimulation of these nerves by pressure or electricity results in a slowing of the heart rate. These are but the elements of experimental physiology. It is essential, however, to take up here the separate function of the two vagus nerves as determined by Cohn.<sup>1</sup> This investigator has found that strong stimulation of the right vagus usually causes momentary arrest of the entire heart, followed by ectopic ventricular contractions, while stimulation of the left vagus has a profound effect on the conduction of the cardiac impulse over the auriculo-ventricular system, producing heart-block. The cause for this is ascribed to the right vagus sending the majority of its fibres to the sino-auricular node or pace-maker, while the left vagus sends the majority of its fibres to the auriculo-ventricular node and bundle. Stimulation of the right vagus, therefore, will alter the rhythm by disturbing (i.e. depressing) the pace-maker, while stimulation of the left vagus will alter the rhythm by interfering with (i.e. depressing) the conductivity of the impulse from auricle to ventricle.

The accelerator nerves of the heart belong, as has been stated, to the sympathetic system, and originate in the second, third, and fourth thoracic nerves, pass to the inferior cervical ganglion, and then joining with the vagus, enter the heart. Like the vagus, these

nerves are in a constant state of tonic activity and exert a continual influence, but in this case the opposite to that of the vagus. Consequently, section of the accelerator fibres slows the heart, and stimulation of these tends to increase the rate.

Although the heart can survive and beat when both these sets of nerves are cut, they are, nevertheless, of the utmost importance in the regulation of the rate of the heart, and the co-ordination of its chambers from a physiological, pathological and pharmacological point of view. From a pharmacological standpoint we might, then, classify our drugs into those whose action on the heart is brought about through vagal influences, and those whose action is brought about through sympathetic influences.\* This, however, is impossible, as the action of some of our best studied drugs is too complex to allow any definite lines to be drawn.

#### ATROPINE.

The first drug which I will take up is atropine, upon which considerable work has been done and from which constant results are obtained. Atropine first stimulates and then depresses the vagus center. The stimulating effect, however, is lost by the depressant action of this drug on the vagus nerve endings, or myoneural junctions; consequently the action of atropine results in a freeing of the heart of inhibitory influences, allowing it to beat more rapidly. This selective action of atropine on the myoneural junctions of involuntary muscle is, by the way, characteristic of this drug, and accounts for the dilatation of the pupil as well. An increase in the rate of a normal heart is noted within twenty minutes after an injection of 1/50 of a grain hypodermically, and disappears within an hour. Its therapeutic usefulness in such dosage can only be conceived of where we wish to prevent dangerously strong vagus stimulation from reaching the heart. Muscarine, contained in certain mushrooms, such as the fly agaric, *Amanita muscaria*, powerfully stimulates the vagus and exerts much the same influence as a continued electric stimulation of the right vagus, namely, a marked slowing of the heart down to 10 or 20 beats per minute, and if continued may so embarrass the heart as to bring about a complete cardiac standstill. *Pilocarpine*, the alkaloid of jaborandi, and certain ptomaines, exert the same influence on the heart but are much less toxic in this respect. Atropine relieves the embarrassment to the heart excited by these poisons, and is therefore the antidote to them *par excellence*, so far as the heart is concerned. In fact, atropine may rescue a cat which is almost at death's door from muscarine poisoning.<sup>2</sup> In a few rare cases<sup>4</sup> of heart-block aug-

\* The influence of the afferent nerves of the heart is so imperfectly understood at the present time that they cannot be considered here.

mented by an abnormally strong stimulation through the left vagus we can bring about relief by the administration of 1/100 to 1/50 of a grain of atropine.<sup>3</sup>

#### MORPHINE.

Morphine is taken up in this paper because of the important role this drug may play in the therapeutics of heart disease rather than its established pharmacological action upon the heart itself. This drug will, in sufficiently large doses, stimulate both vagus nerves<sup>7</sup> and bring about marked slowing of the heart to the extent of 10 or 20 beats per minute without change in arterial pressure.<sup>5</sup> Furthermore, it has been shown by the electrocardiograph that the changes in the rate and the rhythm of the heart from this drug are due to the production of partial or complete sino-auricular and auriculo-ventricular block with the occasional occurrence of spontaneous auricular and ventricular beats through vagus stimulation.<sup>6</sup> Numerous authors have maintained that morphine has a direct stimulating action on the cardiac muscle itself, but our best authorities on this subject have been unable to confirm this view. The main function of morphine is the benumbing of the sense of pain and the production of sleep. We have afferent sensory nerves coming from the heart which record the pain of endocarditis and angina pectoris. Pain anywhere in the body stimulates the heart rate and possibly even augments the force of contractions through the accelerator fibres coming from the sympathetic. Such stimulation only tends to aggravate the pain of endocarditis and angina pectoris, thus establishing a vicious cycle. The same holds true of the pain and distress of acute dilatation. One-eighth grain of morphine will often be sufficient to break through this vicious cycle, and by so doing will afford the patient enough relief so that he will fall into a natural sound sleep which is too often taken for morphine narcosis. By allowing the patient to get a much-needed mental rest the heart may get a chance to recuperate. In the presence of a lesion of the Bundle of His with auricular fibrillation, the stimulative effect of the morphine on the vagus may benefit the heart by tending to complete a heart-block and then allow the ventricles to assume their own rate. The paramount therapeutic value of this drug, however, lies in its property of depressing the sense of pain and thus relieving the heart of embarrassing influences in the nature of a vicious cycle.

#### CHLOROFORM.

During chloroform anæsthesia the heart is the first organ to receive the chloroform-laden blood from the lungs, and it is only after the heart has received the dose that it is distributed to the rest of the body. For this reason it has seemed a matter of course

that the heart should be the first to be imperilled by an overdose during anæsthesia. Furthermore, it has been argued that, as the cardiac muscle is weakened by a sudden overdose of chloroform reaching it, a vicious cycle is set up through the inability of the weakened ventricles to completely empty themselves, whereby this partial stagnation tends to bring about a cardiac standstill even though the anæsthetic be removed at the first sign of a weakened heart action.<sup>8</sup> The frequent cases cited in the literature where sudden death takes place after a few inhalations of chloroform vapor are invariably considered by the critical physician or surgeon to be due to careless overdosage, in spite of the fact that the anæsthetizer declares that he used the utmost care and could not have oversaturated the cone;—nevertheless the anæsthetizer often stands guilty in the eyes of his colleagues. This old theory of death from chloroform<sup>13</sup> has accused unjustly many a careful anæsthetizer of overdosing, when as a matter of fact death during chloroform anæsthesia is rarely due to overdosage, and when death does take place in this way it comes on with ample warning just as with ether, and, furthermore, the heart continues to beat after respiration has ceased. How then does chloroform bring about these cases of sudden death?

The collection of chloroform fatalities recorded in the appendix to the Report of the Anæsthetic Committee of the British Medical Association\* (July, 1900) show that of these 24 cases 14 occurred during the period of induction of anæsthesia and four after completion of the operation and while the patient was coming out. Hill<sup>12</sup> reports that in one year, out of 41 deaths from chloroform, 39 occurred during the primary stage of anæsthesia and before the operation was begun. He describes the common type of death as occurring suddenly during the induction of anæsthesia and the other type as occurring after prolonged anæsthesia. The committee of the British Medical Association point out from their statistics that there is greater danger during light than during deep chloroform anæsthesia, although they offer no explanation of the same. An explanation, however, has been found through the elaborate work of Levy at the University College Hospital in London. This investigator has demonstrated that the common cause of death from chloroform is due to ventricular fibrillation which can only take place under primary or light chloroform anæsthesia. Ventricular fibrillation, † which is the most deadly form of cardiac syncope, is a condition in which the muscle fibres of the ventricles contract incoördinately, and consequently the ventricles became flabby and cease to empty themselves into the pulmonary arteries and the aorta.

\* Quoted by Levy.<sup>9</sup>

† Ventricular fibrillation is the result of the origin of impulses at a number of separate foci throughout the ventricular musculature.<sup>14</sup>

Death naturally ensues unless the ventricles promptly regain their normal function, which is a rare occurrence.

Levy has shown by experiment on cats, “. . . that a sensory stimulation under light chloroform anæsthesia may, through one or more reflex mechanisms, throw the ventricles of the heart into a condition of permanent and fatal fibrillation, or may initiate irregularities which may terminate later in ventricular fibrillation. Under fully established chloroform anæsthesia such an event never happens.”<sup>9</sup> A case cited by this author and recorded by Wilson<sup>11</sup> is a good example of ventricular fibrillation, as it occurs in the operating room:

“The patient, a girl of fifteen years of age, was operated on for genu valgum by Macewen’s method. Chloroform was given on ling; she took it well, the operation was performed, and the splint in process of being put on. At this stage, under the impression that all painful operative procedures were completed, the anæsthetic was discontinued. The patient was then breathing quietly; she had a good pulse and normal color; the pupils were slightly contracted, and the corneal reflex was present—in fact, she was coming out of the anæsthetic, but was sufficiently insensible to bear ordinary manipulations or even incisions without feeling pain, and was as well as anyone could wish her to be. At this instant the surgeon suddenly forcibly flexed the left knee, which was stiff, owing to osteotomy having been performed on that side a few weeks previously. The adhesions gave way easily with a crunching sound, and the patient uttered a scarcely articulate cry, immediately became deadly pale, and began to breathe deeply. She passed at once into the following condition: The head was turned to one side, the face was deadly pale, the eyes were slightly open, the pupils were widely dilated, and she was taking deep inspirations, the air passing freely into the chest; the muscles of the alae nasi were also acting, and the pulse was imperceptible at the wrist. The symptoms conveyed the impression that she had fainted. To drop the head, elevate the limbs, and apply hot sponges, etc., were the work of a moment. She continued to make strong respiratory efforts, and air was freely entering the lungs, but there was still no sign of the radial pulse. It appeared at first that the patient would probably recover—it seemed impossible that she could die with such active respiration; but the breathing, without shading off in the least, suddenly ceased, and every effort to restore life failed.”\*

Overdosage was not the cause of death in this case. And anyone who has had a patient die under chloroform, unless the chloroform was begun with the patient in extremis, will in reading this

\* The author attributes death in this instance to “reflex inhibition of the heart,” and lays some of the blame on the “semi-anæsthetic condition of the patient at the time.”

case, see a similarity to his own experiences. Levy has drawn the following conclusions:

“1. The mammalian heart, when under the influence of chloroform is in an irritable\* condition. This irritability is raised under conditions of light anæsthesia, and lowered under conditions of deep anæsthesia.

2. Abnormal ventricular beats are evoked in a heart under chloroform by conditions which stimulate it or by equivalent conditions which remove or reduce depressing influences.

3. Under conditions of light chloroform anæsthesia the ventricular irregularities resulting from cardiac stimulation may terminate in ventricular fibrillation and death of the heart.

4. Stimulation of the heart may be effected: (a) As a reflex from sensory excitation; (b) As a result of an intermittent administration of the anæsthetic; (c) As a result of the state of nervous excitement accompanied by struggling induced by chloroform in the earlier stages of its administration.

5. Ventricular fibrillation is a cause of death under chloroform, probably the only cause of any moment. It can be prevented by steadily maintaining a full degree of anæsthesia.”<sup>9</sup>

“Dilatation of the ventricles is a condition which is protective against ventricular fibrillation; it is on this ground that the protective action of full doses of chloroform is explained.”<sup>10</sup>

To sum up, we may say that light chloroform anæsthesia irritates or stimulates that special tissue within the ventricles which is capable of originating contractions. The result of this is to render this tissue so susceptible to stimulating influences that not only are premature ventricular beats evoked, but they are brought on to such an extent that they lead up to a complex ventricular tachycardia, which in turn passes into a state of ventricular fibrillation and death. Such stimulating influences which are responsible for this condition may be the result of increased muscular action demanded from one cause or another, or they may be the result of stimulation through the sympathetic, or by an increased flow of adrenalin, or by the presence of barium chloride, atropine or nicotine.

Of course it must be granted that chloroform anæsthesia may be carried deep enough to cause death, either by continuing the chloroform too long or by the use of too strong a mixture. But in these cases of true overdosage (where the respiration and more rarely the pulse is suppressed) either in animals or in man, recovery usually takes place as under ether when the ordinary measures of resuscitation are promptly applied.<sup>9</sup> Here the poisonous action of the chloroform is exerted directly on the cells of the cardiac muscle, causing paralysis. Repeated chloroform anæsthesia may

\* Irritability signifies here a tendency of the heart to exhibit beats of heterogenetic origin.

bring about fatty degeneration of the muscle tissue. The real danger from chloroform, however, does not lie in overdosage, but in a selective affinity for the ventricular portion of that specialized tissue by this drug, whereby ventricular premature beats are evoked through stimulating influences to the stage of ventricular fibrillation.

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## THE RECOGNITION OF RATIONAL TREATMENT IN THE CARE OF WEAK AND FLAT FEET.\*

By GILBERT M. MASON, M.D., Boston, Mass.

The one real reason for this paper is the constantly increasing number of people who complain of foot trouble. This may be accounted for by taking into consideration the pursuits followed by various people in their every-day life, the kind of shoes they wear, and the way they stand and walk. In considering foot troubles, we have a standard, that is, the normal foot. It is not my intention to describe the anatomy or complicated mechanics of the foot, but rather at this time to state in a definite manner a few features of the normal foot so that I may later on compare it with the weak or flat foot.

The normal foot presents no deformities. It possesses a range of motion in certain directions, such as dorsi-flexion to 70° and plantar flexion to about 140°, thus allowing a range of motion from 60° to 70°. On extreme dorsi-flexion of the foot there is slight abduction, and in extreme plantar flexion there is slight adduction. Normal adduction or inversion is allowed to about 30° and abduction or eversion to 10° to 15°. With the individual in

\* Read before the Mass. Homœo. Medical Society, April 14, 1915.

an erect position, both feet are parallel, pointing straight ahead. A weighted line dropped from the center of the patella strikes midway between the first and second, or second and third toes. In walking, the parallel position of the feet is maintained. On weight-bearing, in the erect position, we find a normal spring to the long arch but unaccompanied by depression or lateral deformity.

Examination of the anterior transverse arch reveals a dimple or depression in the region of the second, third and fourth metatarsal heads. In other words, a normal foot is anatomically a correct one. In the examination of weak or flat feet, it is necessary to have a working knowledge of the anatomy, especially as it has to do with the arches of the feet.

There are four arches:—the longitudinal, which is divided into the internal and external longitudinal; the transverse, which is divided into the anterior and posterior. The internal longitudinal arch is composed of the os calcis, scaphoid, astragalus, the cuneiforms and the first three metatarsals. The external longitudinal arch is composed of the os calcis, cuboid and the 4th and 5th metatarsals. The anterior transverse arch is composed of the distal heads of the metatarsal bones. The posterior transverse arch is composed of the cuboid, scaphoid and astragalus.

A weak foot is not always a flat foot, but a flat foot is always a weak foot. The ordinary flat foot usually assumes the position of abduction on standing or walking. A weighted line dropped from the center of the patella strikes the internal lateral surface in the region of the astragalo-navicular articulation. On account of the abducted position of the foot plus the depressed or flattened arch, there are anatomical changes in the bony and ligamentous portions of the feet.

At times, the flat foot will assume the position of abduction without any lateral deformity, but very often, and, in fact, the greater number of cases tend to a lateral deformity caused by the astragalus slipping downward and inward. Many times the os calcis, on which the astragalus rests, will do the same. The result is that one not only has a flat foot, but has a flat foot accompanied by pronation.

With the internal longitudinal arch flattened, accompanied by lateral deformity caused by the slipping downward and inward of the astragalus and os calcis, there is a distortion of the superior and inferior calcaneo-navicular and the superior astragalo-navicular ligaments, accompanied by a strained condition of the tibialis anticus and posticus and the flexor longus hallucis muscles; and with a flattened external arch, there is a strained condition of the peroneus longus and brevis muscles plus a distorted condition of the superior and long calcaneo cuboid ligaments.

The causes of flat feet are:

1st. *Improper way of standing and walking.*

The person with an inclination to weak feet assumes the position of abduction in standing and walking. In the standing position this attitude is not harmful, but in walking the greater amount of weight falls on the internal lateral surface of the foot, producing or causing a strain of the internal lateral ligaments of the knee and ankle joints. This position is assumed many times thoughtlessly to rest the feet. A person does not take into consideration the fact that there is a strain placed upon certain ligaments and muscles in the legs and feet.

2nd. *Occupation.*

We have found that bartenders, waiters, policemen, letter carriers and salespeople suffer greatly from their feet. The greater proportion of these are the waiters, bartenders and salespeople. One reason for this may be the fact that they are required to be on their feet rather constantly, and during the time they are on their feet they cover only a small area of space.

3rd. *Improper shoes.*

We have found that a great many people wear shoes that are too narrow and too short. In some cases the heel is too high. The habit of wearing sneakers or rubber-soled shoes with very low heels is detrimental to the feet.

4th. *Overweight.*

As a person increases in weight, in some cases, the tendency is for the long arch of the foot to sag downward. This is aggravated by people with large pendulous abdomen, improperly supported by belt or corsets.

5th. *Trauma.*

Either direct or indirect.

6th. *Loss of muscle tone due to sickness or otherwise.*

This is especially noticeable in patients recovering from typhoid, after operations, or many times following long continued sickness.

7th. *Infection.*

An infectious arthritis of the feet many times follows an infectious condition in other parts of the body.

The symptoms of weak and flat feet are:

1st. *Pain.*

It is difficult to state the most common seat of pain in a case of acute weak or flat feet. Patients differ very materially as to the location of pain. Some complain

mostly of leg ache; while others say that all the pain is in the sole of the foot.

In treating several thousand foot cases we have found that the most common seat of pain is in the region of the astragalo-navicular joint, then near the origin of the plantar fascia, sometimes over the region of the internal and external tuberosities of the os calcis. Again it may be located at the distal head of the first metatarsal or the proximal head of the fifth metatarsal. At other times it will be found most severe in the region of the peroneal tendons behind the external malleolus. Again it may be most severe at the distal heads of the third and fourth metatarsals. Very frequently there is referred pain to the calf of the leg, to the knees, to the upper part of the thighs and lower part of the back.

2nd. *Disability.*

This may be answered, first, by limitation in motion, dorsi or plantar flexion, adduction or abduction. Second, whether the symptoms are a result of trauma, direct or indirect. Third, whether there has been an infectious condition which has been directly traced as a cause of the foot condition.

3rd. *Deformity.*

This may be divided into several classes:

- (a) Abducted feet without lateral deformity or flattened arch.
- (b) Abducted feet with lateral deformity and a depressed or flattened arch.
- (c) Hallux Valgus.
- (d) Hallux Rigidus.
- (e) Rigid Valgus.
- (f) Contracted toes.
- (g) Hammer toes.
- (h) Spurs on the os calcis.

In the treatment of weak or flat feet, we have to consider seriously three distinct features.

- 1st. Is it our duty to relieve the symptoms?
- 2nd. Is it our duty to correct deformity?
- 3rd. In acute cases of foot strain without abduction deformity, is it not our duty to treat the cases in such a way as to prevent deformity?

In our clinic at the Carney Hospital, we treat several thousands of foot cases each year. Previous to two years ago it was our custom, after treating the afflicted foot in the usual way, with spiral, stirrup compression or anterior arch strapping, baking, exercise

and massage, the correction of Hallux valgus, Hallux rigidus, and Rigid valgus, deformities, the removal of spurs on the os calcis, the correction of all contracted toes and hammer toes by mechanical or surgical methods, to apply a moderate square plate with or without flanges or anterior arch supports. This usually gave the patient a degree of comfort and sometimes temporary relief of symptoms, but never permanent relief of deformity or flatness. In the patients returning to the clinic after a lapse of two to three years, with practically the same symptoms as at their first visit, careful comparison of the physical examinations were made showing two things:

- 1st. That while we gave the patient a support for the foot at the first visit, we did not provide anything to prevent abduction deformity.

- 2nd. The support supplied the patient gave relief to a certain extent, but acted only as a support or splint to the foot.

To a slight extent there was a spring to each support, but with the body weight on the support, the spring did not amount to much.

There are two things all orthopedic surgeons should keep constantly in mind, and they are only too frequently overlooked.

- 1st. Prevent deformity.

- 2nd. Overcome deformity when present.

We therefore decided to use the same precaution with the feet that we used in other lines of work.

- 1st. To use a brace for the feet that would act not only as a proper support but would be a prophylactic measure to prevent deformity.

- 2nd. To overcome any existing deformity caused by weak or flat feet.

When the foot is in proper condition for a support, we take a plaster impression, and from that we make a cast.

The brace, which is the one Dr. Whitman of New York so strongly recommends and which bears his name, is made so that it not only supports the longitudinal arch, as do the common sole plates, but it goes one step further and protects and helps to overcome the lateral deformity caused by the rotating downward and inward of the astragalus and os calcis. The outer flange of the brace protects the articulation between the os calcis and cuboid.

The internal flange extending from the distal head of the first metatarsal up the internal lateral surface of the foot, including the astragalo-navicular articulation, then dipping down to the internal tuberosity of the os calcis, passing over the plantar surface of the heel to the tuberosity of the os calcis meeting the external

flange. Being an unbalanced brace it acts as a grip inducing adduction of the foot and correction of deformity.

In the treatment of acute foot strain and anterior arch trouble, we treat the foot in the usual way until all acute symptoms subside; afterwards we go one step further, provide the patient with a proper fitting Whitman brace to prevent a recurrence of the trouble.

Regarding the brace and the trouble experienced in making the cast, and finally in fitting the brace, I would say that the value of the cast to the mechanic is determined altogether by the manner in which it is taken. After the mechanic has made the brace it should be carefully fitted to the patient's foot. This is a period for patience both on the part of the surgeon and patient.

The brace is strange, it feels peculiar and looks a little different from anything the patient has ever seen. Many times I have noticed that a patient will draw a comparison between the Whitman brace and the moderate square plate but almost always in favor of the Whitman brace. One thing is absolutely certain, there is no come back to it. It is mechanically a prophylactic treatment for the cure of the acute weak feet, and acute foot strain and a definite prevention of increased lateral deformity. It supports the foot, as so many plates do, not in the nature of a splint or piece of steel to hold the arch up, but as a decided help to prevent, and to overcome the deformity, if present, of a pronated foot as other plates do not.

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## UNION OF THE HOMŒOPATHIC AND ECLECTIC SCHOOLS.

By T. H. CARMICHAEL, M.D., Philadelphia, Pa.

Is not the time ripe for a reconstruction of the political groups or so-called schools under which medical practitioners are arrayed? Are there not broader and more natural lines upon which those whose interests and methods, are to a certain extent, similar, may be combined for more effective work? Would there not be greater results in therapeutics through the union of those who believe with Hahnemann that "The physician's highest and only calling is to restore health to the sick, which is called Healing"?

This definition was not intended to minimize the importance of preventive medicine. This was duly recognized by the prophetic mind of Hahnemann in many announcements that have found their verification in the laboratory methods of these later days. The problems of preventive medicine, however, require for their solution the services of but a very small proportion of the medical profession as there are many other scientific workers—not physicians—who divide with the medical profession the honors for efficient service in this role. In the meanwhile humanity goes on with its various ailments and relies upon the physician for relief from its

pains and aches and for help to overcome the obstacles to a pleasant physical existence upon the earth. This work must constitute the main reason for the existence of the medical profession and justifies the definition of a physician's function given above, with which Hahnemann begins his immortal *Organon*.

If this be granted, then at once therapeutics "comes into its own" as the greatest branch of medicine—greatest because it sums up all other medical knowledge in the practical art of relieving suffering.

The laity will continue to value physicians according to their proficiency in therapeutics because upon this alone depends their utility as healers of the sick. Their knowledge of the scientific branches of medicine is of value only as it conduces to greater efficiency in therapeutics.

Therapeutic efficiency is predicated, first of all, upon a positive belief in the remedial value of drugs. Such a belief is not as prevalent as might be assumed. On the contrary doubt and uncertainty in the use of drugs that has bordered upon confusion would more properly describe the attitude of the majority of physicians.

As a result of this, therapeutic nihilism has been developed and has found its advocates among men of the highest scientific attainments. Like other doubters they advertised their doubts and the laity became infected, with the unfortunate result that they lost faith in their physicians as well as in drugs and to this cause, more than to any other, may be ascribed the rapid rise of so many drugless cults. The latter varying from the psychological to the purely mechanical, now claim a clientele of thirty-eight per cent. of the population of the United States.

It is obvious that this atmosphere of blight can be dissipated only when some glimpse—however faint it may be—is had of a fixed definite method of drug action around which may be seen law and order in therapeutics.

Fortunately for the vitality of the profession and the future of therapeutics there exist two so-called schools of medical thought—the Homœopathic and Eclectic—that have escaped the blight of medical nihilism. The members of both of these schools have a real, positive conviction of the efficacy of the *Materia Medica*—the various preparations from the vegetable, mineral and animal kingdoms—for the relief of suffering. They thus hold in common a belief in the most vital part of medicine and they also give to it its proper pre-eminence. These two schools are also in accord upon the scientific method of treatment of the individual patient instead of the antiquated attempts to adapt treatment to diseases. In doing this they both utilize the law of similars—the Eclectic uses it to a less extent and with less consciousness than the Homœ-

opathist to whom the law is ever prominent as his therapeutic guide and as the reason for the existence of his school.

The Eclectic School of Medicine dates its origin from the early Greeks but its development in the United States may be said to have followed the founding of the Eclectic Medical College in Cincinnati in 1845. The original distinctive features of this school have since been largely modified.

At first Eclectics repudiated metallic poisons and as far as was practicable substituted vegetable drugs with a somewhat similar action. Thus Podophyllin obtained some repute as a substitute for Mercury. In the course of years, however, the metals and their salts have gradually found their way back into use but mainly in small doses and for indications that are similar to those of Homœopathy.

The influence of Eclecticism has radiated from the Cincinnati College and it has flourished mainly in the Middle West.

According to recent statistics (furnished to the writer through the courtesy of Dr. John K. Scudder of Cincinnati), there are about 7,000 Eclectic physicians in the United States. They have one national and thirty-five state societies and about as many more district and local societies. They have five medical colleges, seven medical journals and a half dozen hospitals with exclusive Eclectic staffs and probably thirty others with mixed staffs—frequently in connection with Homœopathic physicians. In thirty-one states there are either separate Eclectic Medical Examining Boards or else Eclectic Members on Composite Boards. In Delaware, Maryland and Louisiana, Eclectics are referred to the Homœopathic Boards for examination.

The National Eclectic Medical Association has a membership of about 1,228 or about 17 per cent. of the total number of Eclectic physicians. It must be admitted that this is a school of no mean proportions and the fact that it is built upon a steadfast belief in the efficacy of drugs, is a link that should draw a close bond between it and Homœopathy. The similarity between the two schools probably goes much further, for some Eclectic writers have claimed that Specific (Eclectic) Medication is based upon Homœopathic principles. Be this as it may, the indications for many of the Eclectic remedies are the same as for their Homœopathic use although in the latter school a greater elaboration of symptomatology is observed and the remedies are frequently employed in a much higher state of dilution. In both schools but little attention is paid to the accepted nosology as a factor in prescribing, as their remedies are given to suit the condition of the individual patient. For this purpose they usually rely upon the drug pathogenesis which necessarily means prescribing according to the doctrine of similars.

This also means safe prescribing as such small doses are employed that the vital force is not depleted nor are the sick poisoned.

It is not of the physicians of either of these schools that Dr. Kebler's statement would be true that "It is a very sad thing to say that our physicians are doing the greatest work in promoting the use of cocaine and morphine."

There is therefore, in the broadest and best sense, such a similarity in the practical aims of these two schools, as should lead to the sinking of all minor differences between them, and their merger into one strong school of medicine.

It was with this in view that in 1912 at the meeting of the American Institute of Homœopathy at Pittsburgh, the writer recommended the appointment of "a Committee of the American Institute of Homœopathy to confer with a similar Committee of the National Eclectic Association with the object of preparing a plan for mutual action on matters concerning both schools." It is hoped that the effort thus inaugurated may ultimately produce results.

The union of these two schools would result not only in advantages to both but also to the profession at large.

It would consolidate those who regard the physician's main purpose to be the treatment of the sick and would not magnify the importance of the scientific branches of medicine at the expense of the therapeutic art.

It would stimulate true scientific work in *Materia Medica* by those whose vital interest in medicine is centered upon the art of treating the sick. It would make a school in which therapeutics would be the central sun towards which all the scientific branches of medicine would converge and in which the final test of medical knowledge would be not the diagnosis and prognosis of disease but the ability to quickly and safely afford permanent relief to the patient.

Neither would its time be spent in vain attempts to discover specific remedies for diseases but rather in making more accurate applications of suitable remedies to the ever varying types of diseased individuals.

It would enable a combined effort to place the best of the existing medical colleges upon such a secure, substantial basis that they could successfully repel all future assaults by the forces that seem to dominate medical education.

It would be the great conservator of the medical profession of the future. The dominant school with its therapeutic confusion and nihilism has been the greatest factor in driving the laity into the ranks of the various drugless cults. It is needless to look for their return until medicine can show that treatment by drugs is not pure empiricism but follows a definite method founded upon

law and that its practitioners are earnest and enthusiastic in their belief in the *Materia Medica*.

Such a new school would supply this need as it would afford a therapeutic bulwark around which all other medical knowledge would gather to aid in advancing the efficiency of the healing art. Its influence would soon extend beyond its own borders as the medical world would see as never before the banner of law in therapeutics. It is almost needless to say what that law is. It is not a law governing the treatment of the various diseases that make up the recognized nosology.

It is not a law that will aid in the future discovery of specifics for any of these diseases.

It is not a law the requirements of which can be met by the use of drugs whose action has been supposedly determined through laboratory experimentation upon the lower animals or by their administration to the sick sometimes in doses sufficiently large to produce poisonous effects.

It is a law (some prefer to call it a method) for the administration of remedies—whose pathogenesis have been found through their administration to healthy human beings—to patients who present similar conditions to those produced in the drug pathogenesis. This necessarily requires a small, safe dose and the administration of the single remedy.

To this great law, principle or method of similars the Homœopathic School stands pledged and prominent Eclectics admit that it is the basis upon which their specific prescribing rests.

Why then should the two schools not unite so that their united strength would give a fresh impetus to a rational system of therapeutics which would eventually rally around it a re-united medical profession?

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### IS HOMŒOPATHY INADEQUATE?

By B. C. WOODBURY, JR., M.D., Portsmouth, N. H.

The recent criticism of Boericke's Homœopathic *Materia Medica* by Dr. Fred S. Piper, in the *New England Medical Gazette* calls to mind the now almost forgotten contentions regarding the use of such common articles as skimmed milk, common salt, et cetera, as remedies; also such (to many) repulsive animal preparations as the bedbug, scorpions, spiders, ants, toads and vipers; all of which substances have been utilized in medicine, and many of them proven and incorporated into the homœopathic *materia medica*. Again, certain disease products, long known in homœopathy as the nosodes, are being investigated at the present time and being rehabilitated in the guise of the modern serums and vaccines. Some years ago our homœopathic medical journals were literally teeming with

articles concerning the probable or questionable virtues of all such substances.

In the classical language of homœopathy, *lac defloratum*, *mel cum sale*, *sacrum officinalis*, *natrum muriaticum*, *cimex lectularius*, et cetera, have long been known as efficient remedies, when administered in accordance with the principle of *similia*.

If, in the opinion of the correspondent, too much space has thus been wasted in an otherwise valuable reference book, has not the author been equally generous in his treatment of such recently exploited and inadequately proven preparations as, for example, "cystogen," "adrenalin," "antipyrine," "apomorphia," "hymosa," etc.? Why condemn the one without a brief mention of this other class of remedies, the efficacy of which is questioned by many even of the old school? Does not the multiplicity of remedies with their brief provings or clinical verifications rather show the breadth and scope covered by the author in his work? Surely, in the first named class of remedies we have articles which have not only been given comparatively thorough provings, but have received no small amount of clinical verification. Vide Swan's proving of *lac defloratum*; Dr. Lippe's observations on *sacrum album* or *officinalis*; Dr. A. Korn-doeffer's verification of "*Mel Cum Sale*" (*Hahn. Mo.*, Vol. XIII, pp. 93); all of which reports have for the most part been incorporated into the various works on *materia medica*; and, lastly, the very exhaustive proving of *natrum muriaticum* in Hering's *Guiding Symptoms*, and the clinical confirmations of the so-called tissue remedies furnished us by Schuessler and other writers on Biochemistry.

The first requisite for the admission of a medicinal substance into the homœopathic *materia medica* consists in its thorough proving upon the healthy. Its value as a therapeutic agent is then laid before the bar of clinical experience for an adequate and impartial hearing. This method has characterized homœopathy since the days of Hahnemann. The question now before us is whether or not is this method adequate or inadequate. Is homœopathy inadequate?

Dr. H. A. Whitmarsh of Providence, R. I., in a paper read before the A. I. H. in 1914 (*A Plea for the Scientific in Homœopathy*, *Jour. of A. I. H.*, Jan., 1915), recalls the statement of a distinguished practitioner of the old school, at the dedication of the Evans Memorial in Boston three years ago: that homœopathy "has proven inadequate."

Now we ask ourselves this question. If it is true, as Dr. Whitmarsh is forced to believe, that the older homœopathy has perhaps claimed too much for itself, and that the newer movement in homœopathy is to seek the clinical and laboratory demonstration,

even this does not prove its inadequacy. "Homœopathy," says Dr. Whitmarsh, "proves inadequate, as does everything else chiefly when subjected to unreasonable tests." If in the previous tests to which the homœopathic method has been subjected it may have seemed to some to be inadequate, was it not altogether due to the fact that we were not sufficiently scientific to meet the demands of a rapidly becoming scientific age—an age in which go hand in hand, orthodox science and the various forms of pseudo-science, so-called, characterized by the rise and growth of Christian Science, New Thought, and a multitude of other mental sects and cults?

If homœopathy to survive, to become scientific, must surrender its cherished inheritances, familiarly known as the proving of drugs, the law of similars, and the single remedy, administered in the minimum dose, there is little hope for homœopathy. But, if, as many evidences seem to indicate, scientific medicine is approaching the methods of Hahnemann, via the devious pathways of vaccine therapy, the use of the active principles and colloidal solutions of drugs, measures, many if not all of which demand ultra-microscopic demonstration, and in some instances speculative explanation, it must show either that science (so-called) has never really been true science, as far as drug therapy is concerned, or that homœopathy was long ago scientific.

Dr. Piper mentions the ability of the prescriber to parallel the cures reported of such questionable substances as he has indicated, by similar recoveries without any medicinal substance being administered to the patient. Granted that this is true, and many physicians have instanced it, what better clinical demonstration does the remaining host of remedial agents of the *materia medica* offer us? The advocates of drugless healing find no use for the remedies of scientific medicine, and even question the virtues of homœopathic attenuations, they whose metaphysical training should best fit them for demonstrating the hidden powers of the unseen.

Is homœopathy inadequate? First let us ask, Is scientific medicine adequate? The cruel and barbarous methods of a century ago have long been (almost) abandoned. It has failed in its long centuries of existence to convince at least a minority of practitioners (homœopathists, mental scientists, mechanico-therapists, et cetera) of the efficacy of its principle of antagonistic therapy. Under its very eyes have arisen homœopathy and a host of other medical reforms. Why reform medicine? Because it is adequate; or inadequate? Why, in the zenith of the age of scientific medicine have millions of people in this country alone swelled the multitudes of the drugless cults? In a Christian era (so-called), why is there being enacted the greatest military drama in the history of civilized humanity? Why, except to demonstrate the downfall of militarism

as a guarantee of peace? Does not the rise of drugless healing in our present era of scientific attainment mean the inadequacy of the militant, antagonistic and suppressive methods in therapeutics?

It cannot mean that homœopathy is in itself inadequate, for it has always stood as the vanguard of all true medical reform. No, homœopathy is not inadequate. Some homœopathic physicians may be inadequate to meet the scorn of medical science on the one side, and the criticism of mental science on the other; but may we not find the reasons in our own lack of faith in our methods and in our manner of employing them? Our therapeutic faith has been questioned. We have not met our objectors; our critics have certainly not met us in an impartial investigation of the principle upon which homœopathy rests. In consequence, we have allowed their negative statements to outweigh our own positive affirmations of the fundamental truths of our art. Hand in hand with the therapeutic nihilism that has flourished in the ranks of scientific medicine, has arisen a partial annihilation of that enduring faith which so markedly characterized the early adherents of homœopathy. The records of undisputed cures by such substances as the correspondent has discountenanced remain. Their verification has been the result of the method of pure experiment. What better critique does science demand?

Useless contentions over the potency question, over the use of such not-pure pharmaceutical substances as this student of *materia medica* deplures, do not make homœopathy the more adequate. They have not and never will. The time was when Hahnemann himself pronounced the method known in his day as Isopathy a false system; at least its alleged principle, he contended, was wrong, as there could never really be any such thing as the *idem* in therapeutics—the substance used being not the *same* but similar (*simile*).

Hahnemann's estimate of the isopathy of Lux is well set forth in the *Chronic Diseases*. "Coming events cast their shadows before them." Thus the advent of isopathy; its rejection by the regular profession; its investigation in accordance with the inductive method of homœopathy, and its admission into the *materia medica* in the provings and clinical corroborations to be found under *tuberculinum*, *malandrinum*, *syphillinum*, *psorinum*, and other nosodes. And this at a time when investigation along these lines was considered unscientific by the old school.

At the present, we find this method resuscitated in the experimental deductions of vaccine therapy, and its less æsthetic sister—autotherapy.

The use of *the single remedy in the minimum dose*, based upon *the law of similars* was long ago elucidated by Hahnemann; to-day the followers of scientific medicine are themselves rejecting *the*

*maximum dose and polypharmacy*, so long the slogans of their school, for the single remedy (vaccine), given in the minimal dose, upon the modern scientific *theory of immunity*. Which school of medicine deserves the recognition of priority in therapeutic methods?

Homœopathy is not inadequate. The writer recently heard the statement that the homœopathists were the first true metaphysicians. True, perhaps; but metaphysicians basing their prescience upon the one true method of investigation, that or prior experiment. Is it prescience to be able to state to a patient afflicted with chronic intestinal stasis, for example, that, granted there is no mechanical condition ascertainable, that he or she need no longer worry about the condition known as constipation? And above all things should he cease to torture the vital resistance with the use of purgatives and cathartics—to remove from the patient and all his or her immediate associates, *the fear of constipation*. Is this prescience, or is it not out and out metaphysics? Many millions of the followers of metaphysical and drugless systems might be reclaimed to the homœopathic following, if homœopathists were fully adequate in their advocacy of watchful waiting in such chronic and so-called incurable diseases; and in their recommendation of the preventive and curative measures already well known in the homœopathic regime.

Who would any longer advocate the use of such measures as vaccine inoculation for the prevention of typhoid, tetanus, cholera, smallpox or other diseases incident upon an army campaign, did not war itself engender in the minds and bodies of its participants the very diseases for which science seeks its antidotes? Would not the prevention of war be prophylactic against the diseases of war? Like attracts like: like repels like. Would not the correction of sociological conditions from which the majority of diseases take their origin, together with proper education in hygiene and other preventive measures, make disease of rare and infrequent occurrence? Already the success of such measures has justified the prediction that the therapy of the future will not be therapy at all in the present sense, but will consist in the science of prevention rather than in the art of cure. Already the science of medicine has felt the liberating and broadening influence of this preventive art. Many of the drugless systems are the outgrowth or extension of it.

The future of homœopathy lies not so much in claiming allegiance to the scientific school, but in reclaiming the hosts of adherents it has apparently lost; in convincing the profession at large of its demand for logical investigation, and in demonstrating to the world its claim to being the science of therapeutics at the present time, and in the age that is to come.

## EDITORIAL.

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### THE DUCTLESS GLANDS.

Few subjects in medical science offer a wider field for scientific investigation, or greater scope of speculative fancy, than that afforded by the ductless glands. Enough of fact has, however, been evolved by those giving careful study to the subject to show what far-reaching effects the secretion of certain of these glands have upon the body and mind.

First we should get well in mind the fact that the ductless glands—and by those are meant the pituitary, the thyroid, parathyroid, thymus, the tonsils, adrenals, pancreas, pineal gland, ovaries and to an extent the testicles—form a connected chain which in their functioning do “team work.” There is a well recognized interaction or correlation between all these glands which may increase, decrease or neutralize their individual action to such an extent as to mask the action of any one gland.

For instance, a disturbance in the secretion of the pituitary (hypophysis) gland in infancy may lead to true dwarfism. Similarly, a disturbance of the thyroid secretion at the same period may lead to cretinism, but there is generally found associated with these disturbances, abnormal functioning of the ovaries or testicles, the thymus and the pineal gland.

Next, it has been indisputably shown that all these glands are subject to two extremes of disturbance: one an over-secretion, —hyperfunction; and the other an under-secretion, hypofunction. While a condition of disfunction has been assumed there is no scientific proof that any of these glands do under any circumstances secrete an abnormal or perverted substance. We have, therefore, to consider only the effect upon the system resulting from hyper, or hypo-secretion. These results are generally the extremes of two conditions, such as an hyper-secretion of the hypophysis, producing giantism and a hyposecretion of the same, producing dwarfism.

Again, it is an interesting but demonstrable fact that abnormal functioning of these glands manifests itself in proportion to the age of the subject. The removal of the ovaries or testicles in childhood will affect much more profoundly the subsequent development of the subject than if removed during adolescence. Again, removal of the same during adolescence will cause more disturbance than if removed in adult life.

The study of eunuchism brings out many interesting facts to sustain this assertion.

It therefore becomes apparent that many of these ductless glands have their greatest period of activity during the developmental period; and any perversion of function at such time is prone to result in either an overgrowth or an arrested development of mind or body. There is here presented a great field for study, for it is quite possible that many of the mentally deficient children, the "backward," the "perverse" ones, or those whose mental development seems suddenly arrested, are suffering not so much from any brain lesion as from a hyposecretion of some or many of the ductless glands.

Passing now to those ductless glands which continue their activity through life, physiologists have recently given us many new and interesting facts concerning them. The close relation between the anterior body of the pituitary gland and the sexual system induces many observers to believe that parturition is eventually induced by the final accumulation of pituitary secretion. This over-secretion discharging itself into the blood stream affects the musculature of the uterus, inducing labor. Again, this relationship between the pituitary and the sex glands is shown by Fishera and Jutaka-Kon, who noted that in capons and oxen the pituitary gland was double the size of that in cocks and bulls.

The action of adrenin upon the blood and musculature of the body has been given a new interest through the researches of Prof. Walter B. Cannon as set forth in his recent publication, "Bodily Changes in Pain, Hunger, Fear, and Rage." While many of the facts pertaining to the internal secretion of the adrenal glands have been brought out by Crile and Sajou, yet a study of its action at this particular time lends additional interest to the subject.

The surgical reports from the European war have emphasized the fact that a surprisingly large number of the seriously wounded soldiers recover, not only completely, but with unusual promptness. One report stated that the recoveries under the most adverse conditions were fully equal if not better, than those obtained in civil life in well appointed hospitals. The report concluded with the statement that not over three out of ten gun-shot injuries of the lungs proved fatal. It is in connection with such reports from the battle-

field that the study of adrenin in the blood increases in interest.

Cannon says: "It seems securely established that in the body a mechanism exists by which these glands can be made to discharge this peculiar substance promptly into the circulation." Take that statement coupled with the well known fact that fear, excitement, and hatred will stimulate the adrenal glands to hyper-secretion and the further equally well established fact of the coaguable power of adrenin, and we get a very satisfactory explanation why so many seriously injured soldiers recover from their wounds under circumstances which in civil life would seem impossible.

Robert T. Frank, of New York, summarizes thus the action of the ductless glands:

"In this paper the attempt has been made to emphasize the following facts:

That the glands of internal secretion control and regulate many vital processes, including development, growth, nervous impulses, psychical manifestation, metabolism, and reproduction.

That each gland, regarded individually, exerts a predominant influence upon one or more of these functions.

That in order to produce a perfect individual and maintain perfect health, the inter-action of these glands must be normal.

That the ovary, through which all impulses to the genital tract are transmitted, or in which they originate, is a compound organ (like the hypophysis or adrenal) made up of at least two (follicle apparatus, corpus luteum) or perhaps three (interstitial gland) components.

That the local pregnancy changes are probably accounted for by the persistence of the corpus luteum, but that the products of conception, which surely cause the persistence of the yellow body, may share in causing both the local and systemic phenomena accompanying pregnancy.

That organotherapy is unsatisfactory, X-ray treatment valuable in default of better, resection and transplantation of the ovary purely tentative, local treatment nearly powerless, and general hygienic measures still our mainstay.

Finally, that further progress will depend upon intensive study of anatomical material in connection with elaborated functional diagnosis and symptomatology, instead of upon haphazard empiric therapy."

D. G. W.

### SYSTEMS IN MEDICINE.

There exist to-day two great systems of therapeutics based upon theories closely related in many respects yet distinctly separated by certain fundamental clauses. The oldest is the theory

that likes cure likes, upon which the system of Homœopathy is based; the most recent is the side chain theory of Ehrlich, upon which the system of antitoxin serum treatment is based.

Hahnemann formulated his system a century before Ehrlich; consequently it is not to be wondered at that the methods employed by each should have differed, and that the language used should differ materially. Hahnemann made certain observations from which he intuitively drew deductions. These he sought with indefatigable energy to verify in the literature and by experiment. The result was that he correlated the observations of pharmacology and pathology into a system of therapeutics. We purposely use the word observations rather than facts, because the material he collected was by no means composed entirely of facts. It was composed of observations, and observations may be accurate or inaccurate. Furthermore, as was the custom of his time, he laid great emphasis on the words of past authorities which could be construed to corroborate his hypotheses; in other words he emphasized the scholastic side of his argument. The accuracy of his own experiments was limited by the instruments and diagnostic methods at his command.

Thus Hahnemann refers in his original cinchona experiment to the fever he experienced. He did not take his temperature, he merely felt warm or feverish. Now a person can feel feverish without being so, and he may feel chilly with a temperature of 101°. This point is introduced to show that subjective symptoms may be misleading in determining the true condition of the patient or prover and consequently the deductions drawn may be faulty. Subjective symptoms are subject to the error of expression of the prover and to the error of interpretation of the person conducting the proving. Objective symptoms avoid the first source of error, and being more tangible are necessarily more accurate. The objective symptom is often the cause of the subjective symptoms. Thus a high blood pressure may cause a host of subjective symptoms. The high blood pressure again is caused by a definite pathological condition. In attempting to correlate observations in pharmacology and pathology with the idea of bringing them into a therapeutic relationship, as in the homœopathic system, then we must admit that objective symptoms are generally more accurate guides. The followers of this system still employ a materia medica containing chiefly subjective symptoms. The whole system of Homœopathy is based upon observations which have yet to stand the test of more accurate research along the line of objective symptoms, both from the pathological and pharmacological side. The results of these tests will tend to define the limits and scope of the system.

A system of therapeutics is not supported so much by the logic

of its principles as by the results of its application. Of course, the more logical it appears the more readily will it be taken up. The homœopathic system has won its position through practical competition with other therapeutic methods. The result of this competition has been to place the homœopathic system on a substantial empirical basis; in other words it has apparently stood the practical tests and therefore deserves full recognition, consideration and investigation for this reason if for no other.

The Ehrlich theory is one based upon the results of modern laboratory research. The founder brought certain facts and phenomena together, and ingeniously supplied certain missing links to explain their occurrence. Unlike Hahnemann, however, Ehrlich confined his efforts to what he could observe rather than to what others had said. Ehrlich actually uses facts, but in the natural sciences it is never possible to have all of the facts. The theory was brought out to explain the efficacy of diphtheria antitoxin introduced seven years before. The study of the theory and its application has resulted in defining its practical applicability in therapeutics and thus formulating a system. We find enthusiasts who see the millennium in medicine with an antitoxin or a vaccine for all forms of disease by no means confined to the infections, but the scientists are careful to limit its scope according to what can be expected of it from the laws upon which it is founded. Clinicians are beginning to realize that this system must stand the clinical test. Antitoxins and vaccines must compete with the other prevalent therapeutic methods, and their success as a system must ultimately depend upon their showing at the bedside.

From a truly scientific standpoint the Ehrlich theory is more firmly established than the homœopathic theory. Both have exceptions difficult of explanation which detract from their plausibility. Although both are based upon the same fundamental laws of nature, i.e., the laws of conservation of matter and energy, the law of chemical equilibrium, laws of osmosis, solubility, etc., etc., and although they conform in many respects they disagree on one vital point. A point which is made so much of by Ehrlich, and yet which would not if dropped entirely upset his fundamental formula,—a point which if correct entirely upsets the whole system of Homœopathy. This is the clause of specificity. The study of the side-chain theory has done much to elucidate and justify certain fundamental claims in the homœopathic system, but it is not for us to sit back and watch others limit the scope of our system. Let us follow their example and analyze our own system. One of our biggest problems at present is to ascertain the correctness of this specificity clause in the Ehrlich theory. Some admirable work has already been done in our laboratories, but as yet the evidence is not conclusive. To

depreciate this work, as has been done openly by some writers in our journals, is a sign of degeneracy in the school.

Prof. Cockerell, writing in the *Popular Science Monthly* (Vol. lxxxiv, p. 71), criticises the biologists in the following words: "Artificially, we devise a system which, bounding and restricting facts, gives us the appearance of great precision. We solemnly discuss whether this or that fact falls within this or that artificial category, as if the category were the more real and substantial of the two. We come to know our pigeon-holes better than we know the pigeons which inhabit them; and so far those birds which nest in the trees or rocks, we will have nothing to do with them. Thus there arises a species of orthodoxy, quite analogous to that of the churches." This applies well to the entire medical profession. Let us who follow the homœopathic system familiarize ourselves better with the "facts" upon which our theory is based.

C. W.

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### WESTWARD HO!

Again the time has come for getting ready to attend the annual meeting of the American Institute of Homœopathy. The Seventy-Sixth session of that body will be held in Chicago at the Sherman Hotel, beginning with the memorial exercises on Sunday evening, June 27, and continuing until Saturday, July 3rd. Of course you are going. No physician who is loyal to the cause of homœopathy and desires to keep abreast in medical matters generally will be a "stay-at-home."

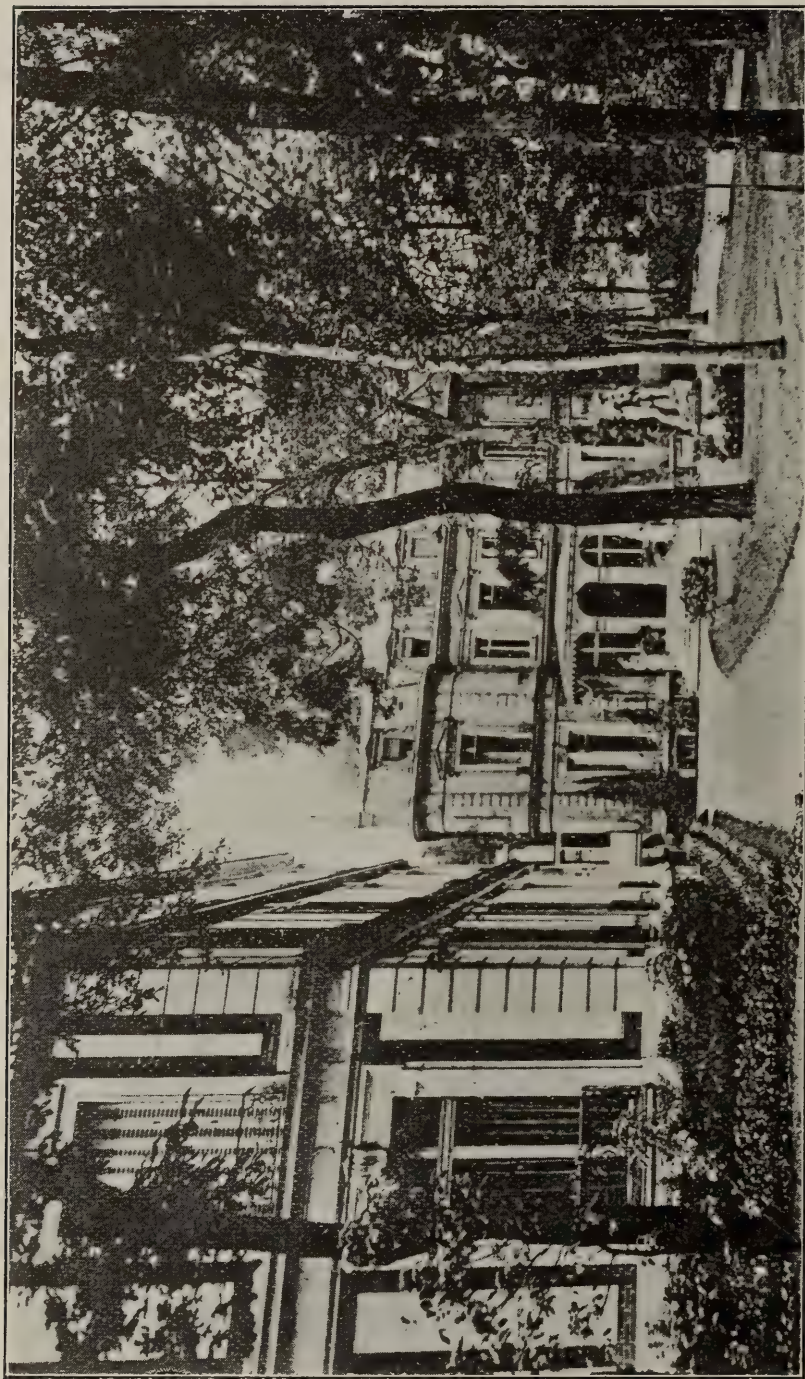
Moreover, go with the crowd, and blend sociability with medicine. The New England delegation will leave Boston, Saturday, June 26, at 2 P.M., from the South Station, via Boston & Albany Railroad. Leave Worcester 3.12 P.M.; Springfield 4.37 P.M.; Pittsfield 6.25 P.M. and Albany 7.45. Arrive Buffalo 3.10 A.M. Sunday and leave via Michigan Central 4 A.M., thus giving an opportunity for the Buffalo, Rochester, Pittsburg, and Philadelphia contingents to hook their sleeper on to our train and thus have a daylight trip together on to Chicago, arriving at 4 P.M. on Sunday, in ample time for a clean-up, dinner, and then the memorial exercises.

By going together each of us will save \$3.17 each way on railroad fare. If a party of ten or more is made up to go at one time, the tickets will be \$19.93, Boston to Chicago. The regular price of tickets is \$23.10. Lower berth \$5.50; upper berth \$4.40.

Please notify the undersigned as early as possible if you intend going.

DEWITT G. WILCOX, M.D.,

419 Boylston St., Boston, Mass.



HOPITAL MILITAIRE AUXILIAIRE, 307,  
29, BOULEVARD VICTOR HUGO, NEUILLY, PARIS

## TO THE OFFICERS AND MEMBERS OF THE AMERICAN INSTITUTE OF HOMŒOPATHY.

An Appeal by GEORGE BURFORD, M.B., Etc., President of the International Homœopathic Congress, 1911, First Vice-president of the International Homœopathic Council; JOHN P. SUTHERLAND, M.D., Dean of the Boston University School of Medicine; President of the International Homœopathic Council; Member of the Board of Trustees of the American Institute of Homœopathy.

Honored Colleagues:—

It would be strange indeed if living and moving Homœopathy, on which the sun never sets, should fail to take its place as a healer of men in that Armageddon which is devastating the manhood of European nations. While the roar of the guns and the tramp of armed men shake the skies, the influences which heal the wounded and restore the sick act as a moral antiseptic in that ferment and welter which is disintegrating the civilization of the Old World. And the medicine of experience, that Homœopathy which is the healing art *par excellence*, is called on to act in the interests of the sick and suffering soldiery, and to play its high part in the restoration of health and strength of those of whatever nation who are stricken by disease while doing their duty to their country.

Early in the present year, two medical commissioners were sent from England to Franco-Belgium to find a building which could be utilized as a Homœopathic Hospital for the sick,—not the wounded. With the powerful influence of Dr. Arnulphy, our distinguished colleague in Paris, they secured the tenancy of a well-equipped sanatorium at Neuilly, obtained official recognition and inclusion by the French Red Cross Society, and reported their work to a provisional committee sitting in London.

An appeal was forthwith made to the homœopathic physicians and their clientele in Great Britain. Presided over by the Earl of Donoughmore, a meeting was held at the London Homœopathic Hospital, a mandate given to open the Hospital without delay, which by virtue of its many-sided relations was denominated the Anglo-French-American Hospital.

This Hospital is now in full work; its present equipment is 50 beds, which are already filled with sick soldiers from the fighting lines; the medical staff is drawn from the ablest homœopathic physicians in Great Britain. The resident medical internes are Drs. E. Petrie Hoyle and Macnish, the latter a former physician to the London Homœopathic Hospital. Month by month the appointed physicians on the rota leave their practices and depart for volunteer service to the Neuilly Hospital. First to go was Dr. Cash Reed, Physician to the Liverpool Homœopathic Hospital. Following him was Dr. Spencer Cox, formerly physician to the London Homœopathic Hospital. Next will join them Dr. Hobart Barlee, who for several years conducted a homœopathic practice in Lyons, France. Next follows Dr. Alfred Hawkes, our veteran colleague in Liverpool. And the other brethren in due course.

The nursing is of the highest class, consisting of trained hospital nurses, presided over by Mrs. St. John, herself a lady of previous war experience. And the consulting physicians are Dr. Arnulphy of Paris, and Dr. Byres Moir of London.

The financial responsibility has been undertaken by the homœopaths of Britain; and they have engaged to finance the Hospital at the rate of some £300 per month. This only applies to a service of 50 beds. The Committee of the Hospital and the Hospital Staff are prepared to raise the number of beds to 100, and are urged to do so by the French Red Cross Society, and thus double the immediate usefulness of the institution. Whatever the totality of the occupied beds, the Committee of Control will maintain the working of the institution, alike in medical staff, in nursing qualification and in hospital equipment, at the highest available efficiency.

To this end the doubling of the Anglo-French-American Hospital in

size and work, we fraternally invite the powerful aid of our American confreres. This institution is the only institution that stands for the values of Homœopathy to the sick in war along the Western war front. Its records, at the end of the war will be published as statistics of the cases and their recovery-rate under homœopathic therapy. We know what new-school remedial measures can do for acute pneumonia, acute rheumatism, acute enteritis, in times of peace. We expect our records obtained in the time of war to be no less impressive and arresting. Not merely for the honor and glory of Homœopathy, not only for the lustre attaching to the American name, but for the salvation of life and the restoration to health of the victims of militarism and the martyrs of patriotism, we invite your co-operation.

The cost of doubling the present Hospital is £5,000, and may well be put through as a lump sum.

In the interim, donations for the present conduct of the work will be received and transmitted by Dr. John Preston Sutherland, Dean of the Boston University School of Medicine, Boston, Mass.; Dr. Sarah M. Hobson, Editor of the *Institute Journal*, Marshall Field Building, Chicago, Ill.; *The New England Medical Gazette*, 80 East Concord Street, Boston, Mass.

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## SOCIETIES.

### **Boston District of the Massachusetts Homœopathic Medical Society.**

The regular monthly meeting of this Society was held on Thursday evening, May 6, at the Evans Memorial.

Dr. Frederick W. Derby, of Arlington, was elected to membership.

It was voted that the June meeting be omitted for this year.

The program for the evening was as follows:

Hemorrhages of the New-Born, by Anton R. Fried, M.D.

Two Problems in Obstetrics—

(a) Pneumonia in the Pregnant Woman.

(b) Contractile Ring Dystocia.

By E. P. Ruggles, M.D.

Reports of Cases by Drs. Charles W. Bush and Edwin W. Smith.

A general discussion followed, and at the close of the program light refreshments were served.

### **Maine Homœopathic Medical Society.**

The forty-ninth annual meeting of the Maine Homœopathic Medical Society will be held on June 8 at the New Augusta House, Augusta.

The Scientific portion of the program will be as follows:

Homœopathy and the Child, by W. H. Kennison, M.D., Madison, Me.

The Fundamentals of Homœopathy, by W. Scott Hill, M.D., Augusta.

Homœopathy in Surgery, by A. I. Harvey, M.D., Bangor.

Time and Place of Next Meeting—Fiftieth Anniversary.

The Duties of the Mature Physician to the Immature Child, by E. P. Colby, M.D., Boston.

The Present Clinical Facilities Offered to Students in Boston University School of Medicine, by Edward E. Allen, M.D., Registrar.

Pain in the Right Lower Abdominal Quadrant, by Clifford D. Harvey, M.D., Dorchester.

The annual banquet will be held at 7 o'clock, and the evening session will include reminiscences by D. P. Flanders, M.D., Belfast, and an address by Dr. John P. Sutherland, Dean of Boston University School of Medicine.

### **Twentieth Century Medical Club.**

The annual meeting of the Twentieth Century Medical Club (women) was held at Hotel Victoria, Boylston Street, on the evening of May 12.

At the business session, the following officers were elected to serve for

the ensuing year: President, Dr. Bertha Ebbs, Dedham; Vice-president, Dr. Lucy Barney Hall, Hyde Park; Secretary, Dr. Barbara T. Ring, Arlington; Treasurer, Dr. Elizabeth Ross, Boston; Auditor, Dr. Eliza B. Cahill, Boston; Censors, Drs. Grace E. Cross, Marion Coon, and Grace D. Reed, all of Boston.

At 6.30 p. m., a dinner was served, covers being laid for 23. The large circular table was decorated with apple boughs, the cloth beneath being strewn with blossoms, petals, and leaves, and crimson-shaded candles shed their soft light on the scene. A pianist furnished music during the dinner, and midway in the after-dinner program, a group of songs was rendered by Miss Edith Bullard.

The retiring president of the club, Dr. Barbara Taylor Ring, made a charming and clever toastmistress, and the toasts and their responses were snappy and up-to-date. They were: "The Physician as a Club-Woman," Dr. Clara E. Gary; "The Physician as a Mother," Dr. Martha E. Mann; "The Physician as a Writer," Dr. Grace E. Cross; "The Physician as an Educator," Dr. Helen F. Pierce; "The Physician as an Humorist," Dr. Mary E. Mosher; "The Physician as an Athlete," Dr. Mary R. Lakeman.

GRACE E. CROSS, Secretary.

### The Seventh Pan-American Congress.

The Seventh Pan-American Congress will meet in San Francisco, June 17th-21st inclusive. It assembles pursuant to invitation of the President of the United States issued in accordance with an act of Congress approved March 3, 1915.

The countries and colonies embraced in the Congress are the Argentine Republic, Bolivia, Brazil, Canada, Columbia, Cuba, Chile, Costa Rica, El Salvador, Ecuador, Guatemala, Honduras, Haiti, Hawaii, Mexico, Martinique, Nicaragua, Panama, Paraguay, Peru, Santo Domingo, United States, Uruguay, Venezuela, British Guiana, Dutch Guiana, French Guiana, Jamaica, Barbadoes, St. Thomas and St. Vincent. The organization of the Congress is perfected in these countries and the majority of them have signified their intention to be represented by duly accredited delegates.

The Congress will meet in seven sections, viz.: (1) Medicine; (2) Surgery; (3) Obstetrics and Gynecology; (4) Anatomy, Physiology, Pathology and Bacteriology; (5) Tropical Medicine and General Sanitation; (6) Laryngology; Rhinology and Otolology; (7) Medical Literature.

All members of the organized medical profession of the constituent countries are eligible and are invited to become members. The membership fee is \$5.00, and entitles the holder to a complete set of the transactions. Advance registrations are solicited and should be sent with membership fee to the Treasurer, Dr. Henry P. Newman, Timken Building, San Diego, California.

The general railroad rate of one fare for the round trip, good for three months, made on account of the Panama-Pacific Exposition at San Francisco, and the California Exposition at San Diego is available for the Pan-American Medical Congress.

The Palace Hotel will be headquarters.

The First Pan-American Medical Congress was most successfully held in the United States in 1893. Five intervening Congresses have been held in Latin-American countries. It now devolves upon the medical profession of the United States to make this, the seventh, the most successful in the series.

Charles A. L. Reed, President, Union Central Building, Cincinnati; Ramon Guiteras, Secretary-General, 80 Madison Avenue, New York City; Harry M. Sherman, Chairman Committee of Arrangements, 350 Post Street, San Francisco; Philip Mills Jones, Special Committee on Hotels, 135 Stockton Street, San Francisco.

## MEDICAL JOURNAL REVIEWS.

## British Homœopathic Journal, January, 1915.

1. *Homœopathic Philosophy; Its Importance in the Treatment of Chronic Diseases.* Weir, J.
2. *Some Remarks on Splenectomy.* Neatby, T. M.

## February, 1915.

3. *Paralysis Agitans: with Special Reference to the Incurability of the Patient and the Means Which May Be Taken for His Amelioration.* Goldsbrough, G. F.
4. *Thoracic Aneurism.* Neatby, T. M.
5. *A Historical Study of Ipecacuanha and Its Alkaloid Emetin.* Low, E. C.

## March, 1915.

6. *Some Notes on the Central Nervous System.* Ibbotson, W.
7. *On Abdominal Operations in Elderly Women.* Neatby, E. A.
8. *Dyspareunia.* Reed, W. C.

## Homœopathic World, January, 1915.

9. *Gunpowder for Gunners and Others.* Clarke, J. H.
10. *Belgian Wounded at Southport Homœopathic Hospital.*
11. *British Wounded in Bromley.* Thomas, H. W.
12. *Treatment of Chronic Constipation by Isotonic Sea Water Plasma.* Sandberg, A. G.

## February, 1915.

13. *Supplement to the Dictionary of Materia Medica.* Clarke, J. H.  
Acetic acid. Aconite.
14. *Leper Houses and Mediæval Hospitals.* Mercier, C. A.
15. *Immunity and the Homœopathic Law.* Watters, W. H.

## March, 1915.

16. *Phases of Homœopathy: A Commentary.* Pullar, A.
17. *Homœopathic Philosophy: Its Importance in the Treatment of Chronic Diseases.* Weir, J.
18. *Leper Houses and Mediæval Hospitals.* Mercier, C. A. Continued from February.
19. *A Beginner's Experience (with Homœopathy).* Eccles, C. H.
20. *The Children's Homœopathic Dispensary.* Day, R.

## April, 1915.

21. *The Anglo-French-American Homœopathic Hospital at Neuilly.* Burford, G.
22. *On the Action of Bodies in the Particular State, with Special Reference to the Action of Carbon.* Sainsbury, H.  
Reprinted from *Folia Therapeutica.*
23. *The Auto-Serum Treatment in Dermatology.* Gottheil, W. H., and Satenstein, D. L.  
Reprinted from the *Medical World.*
24. *Cimicifuga.* Mills, W. S.

## May, 1915.

25. *The Headquarters of the Neuilly Hospital.* Burford, G.
26. *The Neuilly Hospital.* Reed, C.

### North American Journal of Homœopathy, January, 1915.

27. *Painless Childbirth: Normal versus Artificial.* McDuffie, M. W.
28. *Oculist or Refracting Optician.* Ritchie, F. G.
29. *The Management of Occipito-Posterior Presentations.* Ranken, J. F.
30. *Depressed Borderland Cases.* Seward, F. W.
31. *Two Cases of Disturbance of the Pituitary with Psychosis.* Kelly, W. E.
32. *A Short Picture of Arnica Montana.* Bidwell, G. I.
33. *Some Important Aspects of Apis.* Rude, E. W.
34. *An Aconite Case.* Haines, C. T.
35. *The Importance of Early Diagnosis and Treatment in Syphilis.* Rowell, E. E.
36. *Radium: Its Present Status as a Therapeutic Agent.* Dieffenbach, W. H.

### February, 1915.

37. *Blood Findings in Third Stage Tuberculous Cases with Special Reference to the Eosinophilic Count.* Cochen, L. F.  
 "When the number (not percentage) of eosinophils per cmm. is low, a bad prognosis should be made. As the number increases a better prognosis may be given. The eosinophil count is the most constant factor."
38. *A Plea for the Pan-Potentist.* Woodbury, B. C.
39. *The Surgical Treatment of Pott's Disease.* Bingham, A. H.
40. *The Intraspinal Use of Salvarsan.* Woodman, R. C.
41. *Symptoms Arising from Posterior Urethritis.* Price, W. H.
42. *Colloidal versus Crystalloidal Medication in Homœopathy and Biochemistry.* v. d. Goltz, E. G.
43. *Report of the Committee on Public Institutions.* N. Y. County Homœopathic Medical Society. Dieffenbach, W. H.

S. B. H.

### Clinique, January, 1915.

44. *New Methods in Dealing with Cataracts.* Fellows, C. G.
45. *Some Essential Points in the Etiology and Differential Diagnosis of Rheumatic Conditions and Neuritis.* Runnels, D. S.
46. *The Pseudogonorrhœas.* Wieland, F.
47. *The Roentgen Examination of the Gastrointestinal Tract.* Boone, J. F.
48. *A Study in Comparative Materia Medica.* Blackwood, A. L.  
 A consideration of a few of the more important remedies when the heart is involved in the disease.
49. *Some "Don'ts" in Pneumonia.* McDonald, A. R.

### February, 1915.

50. *Gallstone Disease.* Kahlke, C. E.
51. *Vaccin Therapy of Pertussis.* Conrad, A. C.  
 Conrad concludes, rather sweepingly, from 19 cases that the vaccin reduces the severity and shortens the duration of the disease; that open-air treatment should be used in conjunction with vaccin; that other medication does not assist the vaccin in shortening the duration.
52. *Facts in Dermatology Which Every Physician Should Know.* Collins, C. D.
53. *Hæmorrhage from Non-pregnant Uterus.* McBurney, B. A.
54. *Report of London Clinical Congress of Surgeons.* Kelso, G. B.
55. *School Hygiene.* Lindquist, J. A.
56. *Our Materia Medica: Its Use, Abuse and Disuse.* Taylor, E. A.
57. *Report of the Ophthalmological Clinic.* Fellows, C. G.
58. *A Clinic Case.* McBurney, B. A.  
 Papillomatous Cystoma of the ovary.

### March, 1915.

59. *Eye Solutions and Eye Washes.* Harkness, C. A.
60. *Neuritis—Its Therapeutics.* Blackwood, A. L.

61. *Some Case Reports.* Vaughan, E. E.
62. *The Use of Pituitrin in Obstetrical Work.* Cornell, M. C.
63. *Cause for Tonsillectomy and Its Effect Upon the Voice.* McCleary, J. R.
64. *Clinical Notes on Medorrhinum.* Bergman, N.

#### April, 1915.

65. *Feeding Normal Babies.* Weirick, C. A.
66. *The Treatment of Hæmorrhages in the Non-pregnant Uterus by Means of Drugs and Electrotherapy, Not Including X-ray.* McBurney, B. A.
67. *Pellagra, with Presentation of a Case.* Collins, C. D.
68. *Post-Obstetrical Pathology from the Gynæcologist's Viewpoint.* Thompson, L. M.
69. *Pyosalpinx. (After Results of Gonorrhæal Infection.)* Sickles, E. A.  
S. B. H.

#### Pacific Coast Journal of Homœopathy, January, 1915.

70. *Pulsatilla—Its Limitations and Complements.* Waring, G. P.
71. *Some Sidelights on the Materia Medica.* Crutcher, L. P.
72. *Cæsarean Section for Uræmic Convulsion. A Case.* Hunt, J. S.
73. *A Case of Cancer.* Hasbrouck, S.

#### February, 1915.

74. *An Introduction to the Use of the Repertory.* Ramseyer, A. A.
75. *Radiant Light and Its Therapeutics.* White, G. S.
76. *Treatment of Neurasthenia with Hydrotherapy.* Evans, T. J.
77. *Individuality in the Application of Hygiene.* Anderson, A. H.
78. *Ten Remedies Prescribed on One Keynote.* Waffle, W. H.

#### March, 1915.

79. *Removal of Immature and Mature Cataract by the Intracapsular Method.* Smith, J. J.
80. *Hahnemann.* del Castillo, A. L.
81. *Malades Militaires.* Hoyle, E. P.
82. *The Vital Force: An Experimental Demonstration.* Littlefield, C. W.
83. *Medical Legislation.* Pinkham, C. B.

#### April, 1915.

84. *Eye Strain and Its Reflexes.* Buffum, J. H.
85. *Saving Humans.* Chapin, A. D.
86. *Medical Teaching.* Brooks, J. S.
87. *Legislative Notes.* Pinkham, C. B.

S. B. H.

### BOOK REVIEWS.

**The Twelve Tissue Remedies of Schuessler.** Comprising the theory, therapeutic application, materia medica, and a complete repertory of these remedies, homœopathically and bio-chemically considered. By William Boericke, M.D., and Willis A. Dewey, M.D. Fifth edition. Rewritten and enlarged. 450 pages. Cloth \$2.50 net. Philadelphia. Boericke and Tafel 1914.

The fifth edition of this book has many interesting points, especially in the first part where recent results of researches in biochemistry are given in support of the hypotheses brought forward. For the strict Hahnemannian the book will be of great service, and to others it has much to offer. The pages abound with records of cases accurate, complete and otherwise.

**The Nervous System and Its Conservation.** By Percy Goldthwaite Stiles; Instructor in Physiology in Harvard University; Instructor in Physiology and Personal Hygiene in the Massachusetts Institute of Technology; formerly assistant Professor of Physiology in Simmons College, Boston. Published by W. B. Saunders Company, 12m, illustrated. Cloth, \$1.25.

This little book of 229 pages is an attempt to combine in one concise volume the elements of the three sister subjects of anatomy, physiology and hygiene of the nervous system. The author states that the intention has been to present no more anatomy than is essential to an appreciation of the correlated physiology and to subordinate the physiology in its turn to the teaching of hygiene. "The desire has been not so much to dictate in a dogmatic spirit as to open important matters to fuller discussion."

The subjects covered are (1) The Minute Structure of the Nervous Tissues. (2) The Elements of Nerve Physiology. (3) Reflexes. (4) General Anatomy of the Nervous System. (5) The Afferent Part of the Nervous System. (6) The Neuromuscular Mechanism. (7) The Neuromuscular System, Neuromuscular Fatigue. (8) The Anatomic Nervous System. (9) The Cerebrum. (10) The Cerebrum and human development. (11) The Cerebrum and the life of the individual. (12) Emotion. (13) Sleep. (14) Dreams. (15) Causes of nervous impairment. (16) Neurasthenia. (17) Some matters of general hygiene.

The sections on anatomy and physiology are free from mooted questions and deal in a simple, concise and lucid manner with the established facts of the basic structure and functions of the nervous system. Many excellent suggestions are advanced for the better conservation of our nervous health, and stress is laid upon the value of resting one day in seven and changing the tenor of our thought on that day. It is shown, by experiments on the sensation-threshold value of a weak electric stimulus, that those who so rest are much more sensitive to the stimulus on Monday than on Saturday, that is, that the nervous system has gained greater alertness by the day's rest. Minute psychological discussion is avoided, but such statements as are made are well in line with advanced teaching and admirably selected to emphasize the hygiene point of view. The book shows broad reading and reference to many authors and is well indexed. It is pleasing reading and apart from its use as a text-book for elementary teaching, is a valuable little book from which the busy physician can glean many practical points to aid him in instructing his patients.

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## CHANGES IN PERSONNEL OF FACULTY OF HAHNEMANN MEDICAL COLLEGE OF PHILADELPHIA.

The Governing Faculty of Hahnemann Medical College of Philadelphia having recommended, the following changes were unanimously accepted by the General Faculty at a meeting held on April 27:—

### DEPARTMENT OF ANATOMY

Acceptance of Dr. Muhley's resignation and his election as Professor Emeritus of Histology.

Dr. Steinhilber, Associate Professor of Histology.

### DEPARTMENT OF PATHOLOGY, BACTERIOLOGY AND HYGIENE

Dr. A. F. Copeland, Assistant in General Pathology.

### DEPARTMENT OF MATERIA MEDICA AND THERAPEUTICS

Dr. W. B. Griggs, Director of Hering Laboratory.

Dr. Donald McFarland, Assistant Director of Hering Laboratory.

## DEPARTMENT OF MEDICINE

Acceptance of Dr E. M. Gramm's resignation as Professor of Dermatology. Acceptance of Dr. Bullock's resignation.

Dr. W. B. Van Baun, Professor of Dietetics.

Dr. G. Harlan Wells, Clinical Professor of Medicine.

Dr. G. Henry Bickley, Clinical Professor of Gastro-Enterology.

Dr. Joseph McEldowney, Lecturer on Physical Diagnosis.

Dr. J. L. Redman, Lecturer on Pediatrics.

Dr. B. K. Fletcher, Lecturer on Pediatrics.

Dr. B. B. Fenimore, Instructor in Medicine.

Dr. H. M. Eberhard, Lecturer on Gastro-Enterology.

## DEPARTMENT OF NEUROLOGY AND PSYCHIATRY

Dr. W. Lawrence Hicks, Lecturer on Nervous Diseases.

## DEPARTMENT OF SURGERY

Dr. H. L. Northrop, Professor of Surgery.

Dr. W. Nelson Hammond, Associate Professor of Surgery.

Dr. W. C. Hunsicker, Associate Professor of Genito-Urinary Diseases.

Dr. D. J. Morton, Lecturer on Orthopædics and Mechanical Therapeutics.

Dr. J. M. Kenworthy, Instructor on Genito-Urinary Diseases.

## DEPARTMENT OF OBSTETRICS

Dr. C. V. Clemmer, Assistant in Obstetrics.

Dr. Joseph Hunter Smith, Assistant in Obstetrics.

## DEPARTMENT OF GYNÆCOLOGY

Dr. Wm. D. Culin, Demonstrator of Gynæcology.

Dr. W. C. Mercer, Demonstrator of Gynæcology.

Dr. N. S. Betts, Demonstrator of Gynæcology and Gynæcological Pathology.

## DEPARTMENT OF LARYNGOLOGY, RHINOLOGY, OPHTHALMOLOGY AND OTOTOLOGY

Dr. Oscar Seeley, Demonstrator of Laryngology and Rhinology.

Dr. Fred Smith, Demonstrator of Laryngology and Rhinology.

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**NOTICE TO PHYSICIANS.**

Mental or chronic patients may be sent to a quiet place with homelike surroundings. Male and female nurses in attendance. Rooms ready for inspection.

In the same house is a large room, suitable for a doctor's office, for rental. No physician at present on the same street.

Address Miss E. M. Custer, 74 St. Stephen St., Boston.

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**SUMMER COTTAGE FOR RENT FOR SEASON OF 1915.**

An attractive summer cottage in Southern New Hampshire to be let for the season. Accommodates six persons. Five comfortably furnished rooms, with one extra unfinished room. Excellent well water. Use of double tennis court. Vegetables, milk and eggs from near-by farm. Trout fishing. Two hours from Boston on Worcester & Nashua R.R. One acre of land; some garden produce from the place. One mile from station. Stage to Dover (five miles) passes door. High location. One hundred dollars for the season. Address "E. S. J.," care of *New England Medical Gazette*, 80 East Concord St., Boston.

### AUTOMOBILE BLUE BOOK.

Every doctor who owns an automobile (and what doctor of an established practice does not own one?) spends some portion of his vacation days in motor touring. To such, the Automobile Blue Book is an indispensable adjunct. It enables him to pick out the best route to his desired destination, besides saving him the endless bother in inquiring, and probably being misdirected, as to the best roads. The 1915 Automobile Blue Book has many new features.

With the chirp of the first robin and the notes of the Italian's hurdy-gurdy comes another dependable harbinger of spring, the Automobile Blue Book, which has just made its appearance for 1915. The motorist's Baedeker has several new features that should greatly enhance their value to their legion of users.

For the year 1915 a sixth volume has been added to the five formerly published, the infant of the Blue Book family giving road information in the scenic States of California, Oregon and Washington and the Province of British Columbia and completing the survey of tourable North America. The six volumes now divide the country into the following sections:

Volume 1—New York State and contiguous Canada.

Volume 2—New England, Quebec and the Maritime Provinces.

Volume 3—New Jersey, Pennsylvania and the southeast.

Volume 4—The Middle West.

Volume 5—The Mississippi River to the Pacific coast.

Volume 6—California, Oregon, Washington.

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### CHICAGO MEETING OF THE AMERICAN INSTITUTE OF HOMŒOPATHY.

1915 Session in Chicago, June 28-July 3, Hotel Sherman, Clark and Randolph Streets.

Business Sessions daily from 9 to 10.30.

Morning Bureaus: Pedology, Sanitary Science, Homœopathy, Clinical Medicine, Materia Medica.

The Bureaus of Dermatology and Genito-Urinary Diseases and of Clinical Research will also report.

The Obstetrical, the Surgical and Gynæcological Society, the O. O. & L. and the National Society of Physical Therapeutics will present good programs.

The Memorial Service will be held on Sunday evening, the 27th, preceding the annual business session.

The program will conclude with a dramatic entertainment at the Art Institute, and Dr. Costain's special train to the Pacific Coast.

Hotel rates, \$2.00 a day and up. Every room has its bath, and is supplied with circulating distilled ice water.

For further details read the "Journal of the A. I. H." Send \$2.00 for a year's subscription.

SARAH M. HOBSON, M.D., Secretary-Editor,  
917 Marshall Field Bldg., Chicago, Ill.

**PERSONAL AND GENERAL ITEMS.**

The *Gazette* learns that there is a good opening for an homœopathic physician at Somersworth, New Hampshire.

Dr. Katharine French (B.U.S.M. 1910) has resigned her position as house physician at Talitha Cumi Home, Jamaica Plain, and has begun practice in Framingham, Mass. She is succeeded at Talitha Cumi by Dr. Helen B. Todd, a graduate of the class of 1914.

Dr. Mara L. Pratt Chadwick's address is changed from Malden, Massachusetts, to 10450 Lake Shore Boulevard, Cleveland, Ohio. Dr. Chadwick is a graduate of B.U.S.M. of the class of 1889.

Dr. Emil U. Dillenback, class of 1914, B.U.S.M., has removed from Beverly, Massachusetts, to 705 Sumner Ave., Springfield, Mass.

Dr. Henry F. Dauphin, of the 1915 graduating class, B.U.S.M., has been appointed house physician at Newton (Massachusetts) Hospital.

Dr. Lucille A. James-Tarbox (B.U.S.M. 1897) has removed from Danielson, Conn., to 35 Grove Street, Norwich, Conn.

TO BE LET, at Somersworth, New Hampshire, a physician's suite of three rooms, with heat and plumbing. Rooms have been occupied for several years past by a homœopathic physician. Address C. A. and A. M. Watson, Somersworth, N. H.

Dr. Dana B. Mayo, class of 1906 B.U.S.M., has removed from Somersworth, N. H., to Waldoboro, Maine. His post office address is R. F. D. 4.

The Alumni Association of Hahnemann Medical College of Chicago gave a banquet to the graduating class, in conjunction with the State Society, on the evening of May 13. May 14 was observed as home-coming day at the College, with an all-day clinic from 8.30 to 5, and luncheon at the College.

Boston University School of Medicine is to receive a legacy of seventeen thousand dollars, balance of the estate of the late Dr. Joseph P. Paine, of Boston.

The will of the late Miss Helen Collamore, of Boston, is being contested. By this will, the Massachusetts Homœopathic Hospital was to receive outright \$220,000 and to become one of five residuary legatees, and the Medical School the sum of \$5,000.

The *Gazette* has been informed that a good opening exists for a homœopathic physician in Inglewood, California, six miles from Los Angeles; population about 3,000. Also another good opening in Louisiana, Missouri, for a capable homœopathic physician. Population 6,000, in a fine farming country.

Dr. Sanford B. Hooker, Assistant Editor of the *Gazette*, is continuing in Philadelphia his studies in immunity, after several months in New York hospitals and laboratories. He will later take up work in Chicago.

Dr. Florence T. Roper-Craighead, B.U.S.M. 1903, is living at 150 St. Stephens Road, Mobile, Alabama.

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS.

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### THE ORGANIZATION OF NATIONAL FORCES IN THE CAMPAIGN AGAINST CANCER

The American Society for the Control of Cancer has recently urged that every state medical society take an active part in arranging meetings and in spreading among all members of the profession the latest knowledge of malignant disease. At the suggestion of the Cancer Committee of the Pennsylvania State Medical Society, many journals will devote their July issues to this subject.

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### WHY WE SHOULD HAVE A WAR AGAINST CANCER

From the Commission on Cancer of the Medical Society of the  
State of Pennsylvania

It is a fact that cancer kills about 75,000 people in the United States every year. Any disease which causes such a high annual toll should command the careful attention of the Government, the medical profession, and the people. The need for this careful attention is all the more imperative if both the morbidity and mortality can be very largely reduced by co-operation on the part of these three forces, i.e., the Government, its people, and their physicians.

The reduction that has been caused in tuberculosis is now a matter of history. There can be no doubt that similar well-directed and persistent activity would cause a similar effect in cancer.

The key to the reduction of cancer mortality lies precisely in this: That cancer always begins as a purely local disease involving a strictly limited area. Second, that this limited area is accessible in about four-fifths of all cases; and third, and most important, a commencing cancer practically always

indicates its presence when it is still in its early, locally limited, and permanently curable stage. In other words, the enemy that we have to fight is not the cancer, but the delay. Nearly 60,000 of our people die every year, not because they have cancer, but because they have waited till the cancer became incurable.

The causes for delay are, first, that the people know little or nothing about cancer. The layman or laywoman does not know that certain evident signs and symptoms mean that cancer is insidiously creeping on them and will be fatal unless recognized and checked in time. So that a large proportion of our 60,000 unnecessary cancer deaths occur because the people do not know. If a woman has a right to kill another human being to save her own life when attacked, how much more has she the right to know that a fatal disease has begun its attack on her? A woman who loses her life at forty simply because she never knew that irregular vaginal bleedings indicated the presence of a cancer while it was in its early curable stage certainly has not had her fair chance at the hands of civilization. If our people are dying because they do not know, we, the doctors, must teach them. We must teach women that a lump in the breast, no matter how small or how painless, may be the starting point of a serious condition and must at once be investigated by a competent physician. We must teach women that irregular vaginal bleeding, the onset of a discharge, etc., may be early warning symptoms of cancer of the uterus. We must teach all people that a mole or a wart which begins to grow, bleed, or ulcerate, is a danger sign that must be heeded at once. There are similar early signs in other portions of the body that may forewarn people, and of which they should have accurate knowledge.

There is also a great field in the conditions marked by chronic irritation and the so-called precancer lesions. Recent statistics show that in about 40% of cases the cancer, the malignant disease, was preceded by long-continued simple diseases or by some form of chronic irritation. In other words, a large proportion of cancerous people need not have had the disease at all if they had been forewarned and had their precancerous condition cured.

The second great problem lies with us as medical men. Are we as active in the treatment of precancerous diseases as we should be, or do we only too often put our patients off with some placebo and advise them not to worry? Do we always insist on a thorough examination when a patient comes to us with symptoms that may mean cancer? When an early cancer is present, do we always lay proper emphasis on the necessity

for proper treatment at once? Do we not too often advise the one course which can yield to disaster and tell our patients to wait and see what develops, i.e., wait till the cancer becomes inoperable? Unfortunately at the present time these questions must be answered to our disadvantage. A recent extensive investigation has shown that on an average the family physician has had his cases of cancer under observation for about a year before they come to a real attempt to cure the disease. Our attitude to cancer needs to undergo a radical change. The average of one year's observation must be cut down to a few weeks, or, best, to a few days. Immediate attention to the precancerous condition, counsel in the doubtful cases, and immediate action in the positive cases, is the only proper service we can give our patients. To do this, we need a campaign amongst ourselves, too. A new and more efficient spirit must be created which will result in constant watchfulness to keep our patients from swelling the thousands of untimely and unnecessary deaths from cancer.

To arouse the profession fully to the necessities in the war against cancer, a movement has been started by which, during the present few months, State and County Societies all over the country are devoting special meetings to the study of cancer, and in addition, the vast combined influence of American medical journalism has been enlisted, and the *New England Medical Gazette* has united with many other medical journals to provide for its readers special cancer numbers. It would seem from the number of journals co-operating that the message must be brought directly to every medical man. We are sure that in this way the interest of the medical profession will be aroused for years to come, and we are sure that the time will be soon at hand when no blame for participation in the fatal delay can ever be laid at the door of an American physician.

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LIST OF MEDICAL JOURNALS ASSISTING IN CANCER CAMPAIGN  
IN JULY

American Journal of the Medical Sciences  
Atlanta Journal-Record of Medicine  
American Journal of Surgery  
Journal of the Arkansas Medical Society  
Annals of Surgery  
American Journal of Obstetrics and Diseases of Women and  
Children  
American Medicine  
American Journal of Clinical Medicine  
Buffalo Medical Journal

Boston Medical and Surgical Journal  
Colorado Medicine  
California State Journal of Medicine  
Chicago Medical Recorder  
American Journal of Clinical Medicine  
Cincinnati Clinic  
Denver Medical Times  
Florida Medical Journal  
Good Health  
Hahnemannian Monthly  
Homœopathic Recorder  
Journal of the Indiana State Medical Association  
International Journal of Surgery  
Interstate Medical Journal  
Journal Lancet  
Journal National Medical Association  
Journal of Advanced Therapeutics  
Kentucky State Medical Journal  
Journal of the Kansas Medical Society  
Long Island Medical Journal  
Bulletin of the Medical and Chirurgical Faculty of Maryland  
Military Surgeon  
Journal of the Missouri State Medical Association  
Medical Record  
Medical Summary  
Medical Times  
Modern Medicine  
Medical World  
Medical Council  
Maryland Medical Journal  
Massachusetts Medical Journal  
Medical Sentinel  
Medical Fortnightly  
New York State Journal of Medicine  
New York Medical Journal  
Northwest Medicine  
New England Medical Gazette  
New Orleans Medical and Surgical Journal  
New Mexico Medical Journal  
Ohio State Medical Journal  
Old Dominion Journal of Medicine & Surgery  
Journal of the Oklahoma State Medical Association  
Ophthalmology  
Pennsylvania Medical Journal  
Pacific Medical Journal  
Pediatrics

The Proctologist  
Pacific Coast Journal of Homœopathy  
Physician and Surgeon  
Surgery, Gynecology and Obstetrics  
St. Paul Medical Journal  
The Southern Clinic  
Southwest Journal of Medicine and Surgery  
Southern Medical Journal  
Texas Medical News  
Texas State Journal of Medicine  
Therapeutic Digest  
Texas Medical Journal  
Journal of the Tennessee State Medical Association  
Virginia Medical Semi-Monthly  
West Virginia Medical Journal  
Western Medical Review  
Wisconsin Medical Journal  
Woman's Medical Journal

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## THE CANCER QUESTION

By HORACE PACKARD, M.D., F. A. C. S.,

Professor of Surgery Boston University. Senior Surgeon Mass. Homœo.  
Hospital. Consulting Surgeon Newton and Brockton Hospitals.

In the past ten years the writer has endeavored to gather and correlate facts in the natural history of cancer hoping thereby to arrive at a plausible hypothesis as to its cause, and coincident therewith find something useful in its prevention or cure.

It is not in the plan of this paper to make an extended argument in support of any theory as to the cause of cancer except to plainly state that it is the writer's unqualified conviction based on incontrovertible facts, a part of which have already been set forth in previous papers\* that the active primary cause of cancer is extrinsic, i.e., some living outside agency-microbe, protozoan, or fungus—which in the ordinary rounds of life gets a foothold upon or within the tissues of the human body and there undergoes a cycle of development in its life history, resulting in overgrowth, cell multiplication, destruction of adjacent tissue, metastasis and final death of host which we see exemplified in our daily routine of professional duties.

Accepting this as a working hypothesis, the physical manifestations which we call cancer are an end result consisting of

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\* Demineralized Food and Cancer. Boston Med. and Surg. Journ., March, 1912. A Possible Factor in the Causation of Cancer. Surg. Gyn. and Ob., Feb., 1913.

intricate tissue changes brought about by an agency with whose life history outside the animal body we are thus far in ignorance. We are therefore brought to a standstill at once as far as prevention of the disease is concerned through destruction or elimination of the cause, for we do not yet know its avenue of approach nor its habitat before its implantation upon or amongst animal tissues.

In a careful study of the natural history of cancer there are, however, impressive facts which suggest that something may be done to fortify the human tissues against incidence of the disease.

1st. We must accept the plainly evident fact that a widespread prevailing immunity against the disease exists in the human family because

- (a) Some cases, not many, spontaneously recover from the disease even after it has reached an inoperable and apparently incurable stage.\*
- (b) Young people exhibit a protective resistance; they do not have the disease or so rarely that it is a negligible quantity.
- (c) Many cases recover from cancer through destruction of the local area of incidence and go through life without further trouble.
- (d) The age of incidence of cancer is in the advanced years of life when the vital resistance to all forms of disease producing parasitic invasion is lowered.
- (e) Ninety-nine and nine-tenths per cent of the human family go through life without cancer, i.e., are immune. About one-tenth of one per cent (80 to 110 to the 100,000) are lacking in resistance and succumb to the disease.

2d. Resistance to disease producing parasitic life is largely a matter of nutrition. It is a fact universally accepted that poorly nourished, half starved people fall victims to the ordinary contagious and infectious disease more easily and die in much greater numbers than the well fed and fully nourished.

3d. Analysis of the dietary habits of the masses of civilized people shows the consumption of an over abundance of protein and carbohydrates and a positive abatement of the chemical ingredients without which no life can exist.

4th. It is a simple and convincing experiment which any physician may try to select from his circle of friends or patients an individual or family subject to perennial attacks of that common infection known as cold, influenza or grippe. The

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\* See Researches by Gaylord, Mackay, and Packard.

establishment of a fully mineralized diet\* changes the course of events in this respect to a complete immunity from these troublesome complaints, or such resistance that they quickly throw off the invading host and recover without the usual long drawn out sequelæ of coryza, pharyngitis, laryngitis, bronchitis, and may be pneumonia.

It is a further simple and convincing test to select a family of children and establish them on a fully mineralized diet and observe their behavior toward the ordinary contagious diseases of childhood. They do not take them at all or recover so quickly and without complication that such diseases of childhood sink into insignificance. It seems to the writer conclusively proven that all the infectious diseases would pass with far less virulence if the human family were more strongly fortified against them by a rationally and intelligently balanced diet. The proteins are the builders, the carbohydrates the heat generators, the food salts the energizers and defenders against disease. A battery cell is an inert and useless thing without the chemicals which give it energy. Who shall say that every cell of the animal body is not a minute electric battery dependent upon its functional energy and resistance to extraneous destructive influences, upon those chemical substances and combinations which we call food salts? We know at best that elimination of those mineral ingredients from the daily food supply quickly results in sickness and death.

A fully mineralized diet well balanced by suitable proteins and carbohydrates is found to be a protection against the known contagious diseases — tuberculosis, pneumonia, bronchitis, colds, coryza, grippe, scarlet fever, measles, diphtheria.

What bearing does all this have upon cancer? Simply this: According to all analysis, reason, and analogy cancer is a disease the active cause of which is some kind of a parasitic ultra microscopic living agency. The human body has, under normal states of nutrition and metabolism, sufficient energy and resistance to exclude or destroy that organism before it gets a foothold in those tissues — epithelium and connective tissue — which seem to be its only possible habitat. A clinical test covering several years has been made by the writer with the view of testing out this regime on cancer cases. The result has been most convincing that in this dietary proposition we hold the key to the preventive from cancer or the maintenance of a low percentage of cancer in the human family. It is not in the scope of this paper to make extended report of cases. Here are a few types:

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\* A Possible Factor in the Causation of Cancer. Surg. Gyn. and Obstet., Feb., 1913.

Inoperable, recurrent cases of cancer which after adoption of this new idea have taken on a new lease of life and energy and lived comfortably far beyond the limit set by preceding experiences.

Far advanced cases operated on, which should have had before this, under established precedents, a return of the disease, still alive well and happy.

Cases of advanced cancer operated on and free from return of the disease, until change in environment and lapse to an unbalanced dietary opened the way for recurrence.

A recurrent mammary carcinoma which had periods of recession coincident with the observance of full mineral food content and exacerbation in periods of lapse.

The writer is aware that in making this preliminary reference to results, insufficient clinical material has accumulated to warrant definite conclusions. It is earnestly hoped that all readers of this communication will try out this simple expedient of a fully mineralized diet\* not only for their cancer cases to help them throw off the disease or hold it in abeyance, but as far as possible all their patients looking to prevention of the first incidence of the disease.

#### CONCLUSION:

There are but five arguments in closing which the writer desires to punctuate.

1st. Incontrovertible facts in the natural history of cancer point so strongly to a parasitic cause that we are warranted, until such theory be refuted in accepting it as a working hypothesis.

2d. In the dietary of the human family the essential triad is proteins, the builders; carbohydrates, the heat generators; mineral salts, the energizers and immunizers.

3d. That the human family is under-fed in the matter of the mineral food salts—one has only to look at the weak hearts, the constipates, the physically debilitated, the nervous wrecks, the lessening resistance to contagious diseases, the epidemics of grippe, bronchitis, pneumonia, the prevalence of tuberculosis and cancer, all largely preventable by dietetic and hygienic measures; and

4th. The momentous fact that the flour mills and the rice mills of the civilized world are busy eliminating every particle of iron, phosphorus, sodium, potassium, silica, chlorine, magnesium, and sulphur, from our staple food supply and sending out food material rich in heat units but pitifully meagre in energizing and immunizing material.

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\* Demineralized Food and Cancer. Boston Med. and Surg. Journal, March, 1912.

NOTE. — *In a single flour mill of the middle West, approximately one million tons of wheat are milled each year. Of this about 550 thousand tons go to the human family as refined flour (wheat starch) and 450 thousand tons of by products bearing the energizing, immunizing food salts go mainly to feed domestic animals.*

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## CANCER OF THE UTERUS AND ITS EARLY RECOGNITION

By EDWARD A. WEISS, F.A.C.S., Pittsburg, Pa.

Medical literature abounds with articles pertaining to the importance of early diagnosis of cancer; teachers in medical colleges emphasize care in diagnosis; public lectures and magazine articles on the subject are common; national, state and local societies for study of the subject have been formed, — but in spite of all this propaganda, hundreds of cases of cancer go unrecognized until too late for cure.

It has frequently been stated that cancer is increasing, and mortality statistics would lend strength to the idea as the report of the Census Bureau on Mortality in 1913 shows that in the twelve most important causes of death the greatest increase was that for cancer, which rose from 63 per 100,000 population in 1900 to 78.9 in 1913. It is doubtful, however, whether more people die of cancer than formerly, for it is quite probable that the disease is now diagnosed, whereas in former years many cases were carelessly reported as exhaustion, change of life, hemorrhage, etc. Registrars insist, and properly so, on more explicit diagnosis. We may take it, therefore, that the increase in cancer is apparent but not real.

To demonstrate the frightful mortality of cancer of the uterus we need only consider the statistics of 1906 as compiled by McGlinn. During that year in the registration area of the United States, out of a total death rate for the males of all ages, of 358,282 there were 11,166 who died of cancer, and out of a total of 299,000 for females, 17,800 died of cancer. This demonstrates that in that one year one male out of 32 died of cancer, and one female out of 11 died of cancer. The corresponding phthisis rate being for males, one out of 9.9 and for females, one out of 10.2. This shows that almost as many women died of cancer as of phthisis.

In the same area for 1906 out of a total death rate of 186,944 for males over 35 years of age, 10,644 died of cancer, and out of a total of 156,445 for females over 35 years of age, 16,879 died of cancer. This means that one man in 17.5 over 35 died of cancer, and *one woman in 9.2 over 35 died of cancer.* The corresponding phthisis rate for that age period being for

males one in 9.9 and for females one in 14. In other words, more women past the age of 35 died of cancer than of pulmonary tuberculosis. The stomach was the most frequent site of the disease in men, occurring in 43 per cent of all cases. In women the stomach was second, while the uterus was first, being the site in 27 per cent of all cases. From these figures we can see that more women die of cancer than men, and that the uterus is the organ most frequently affected.

The early recognition of cancer is the keynote of this article. All authorities are agreed that if the disease is recognized early the skillful surgeon can completely cure it. Innumerable statistics could be cited proving this assertion. In Germany the cancer problem has been solved to a great extent by the wide-spread education of the public in regard to cancer recognition. The German surgeons by means of this dissemination of knowledge have succeeded in saving hundreds of lives by early operation. In some of the large surgical centers of Europe the percentage of complete cures has risen from about 10 per cent to 40 and 50 per cent.

So often the remark is heard "operation does not cure cancer." No, operation does not cure cancer if the disease is far advanced, and unfortunately a too large percentage of the cases applying for surgical relief are too far gone for cure. In the advanced case not even the most skillful surgeon can remove the disease completely; he can only remove the accessible portion and so relieve the patient for the time being. On the other hand, the cases of uterine cancer coming for operation before the disease has made much headway can be cured absolutely, as is shown by the excellent operative results of Werder, Wertheim, Clark, Reis, Dickinson and other competent gynecologists.

There are several reasons why it is most important to recognize uterine cancer early; namely, because cancer of the uterus is the most frequent primary form of the disease; it occurs generally in middle life when the woman is in her most active and most useful state; the disease is a rapid one, few patients unless operated early live over two years after the disease is once established; and because of the great suffering and distress it produces.

In the past, physicians themselves were often neglectful in recognizing the disease early, but in recent years they are alive to the subject and by careful examination have saved many lives. Unfortunately however, the patient does not seek medical advice until the disease has made frightful inroads on her health and the physician is consulted as a last resort. This neglect and failure on the part of the patient to consult her medical

advisor early can be attributed to carelessness, indifference, ignorance, poverty, false modesty, or probably what is the greatest factor, the fear that she might be told that she has cancer. Very often too the physician does not consider seriously, and neglects to investigate carefully such symptoms as irregular menstruation and leucorrhea and dismisses the patient with the assurance that a few douches or some medication will relieve her. With such advice the patient naturally is satisfied and glad to escape the embarrassment of examination, and does not speak of the matter again until a severe hemorrhage or a foul discharge reveals the terrible mistake that has been made.

The burden of recognizing uterine cancer early rests on the family physician, for it is he rather than the specialist who is consulted first. It is quite true that the diagnosis in the early stages is often difficult, but when the family practitioner has the slightest doubt or suspicion, he should appeal at once to an expert, for the reason that it often requires the greatest diagnostic skill to make an early diagnosis. It is infinitely more to the credit of the attending physician to be over cautious than to delay until hope for a permanent cure has passed. To ask for consultation is not a confession of ignorance on the part of the family physician, but it is an evidence of honesty.

It is an unfortunate fact that the early symptoms of cancer of the cervix are few and not always characteristic. Bleeding and watery discharge are practically the only symptoms which attract the patient's attention. The bleeding may be only slight and may be noticed only after some exertion, such as straining at stool, lifting burdens, during intercourse, or when introducing a syringe. Sometimes the first sign may be an occasional spotting of blood noticed between the regular menstrual periods. The bleeding is rarely free and for that reason is considered trivial. The menstruation may be increased in amount and of longer duration, but even this may be absent. Leucorrhea, which is present more or less in almost every woman who has borne children, is increased in amount and assumes a distinct odor, and is irritating to the vulva in spite of douching, but a blood streaked leucorrhea is always significant. While the causes of uterine bleeding and discharge are many and of a transient nature, we will state with all positive emphasis, *that any irregular bleeding or suspicious discharge should never be treated under any circumstances without making a careful digital examination.* If examination be refused by the patient, the attending physician should refuse to prescribe and bluntly tell the patient the danger of indiscriminate drugging and douching. The writer has seen several cases of advanced carcinoma where the attending physician has at some earlier time prescribed

styptics or douches without having made an examination until too late.

Of equal importance is bleeding after the menopause especially after the menses have ceased for several months. While other conditions such as myoma, polypi, and senile vaginitis may cause occasional spotting or bleeding in a woman after the menopause, the condition should always be considered malignant until proved otherwise by careful examination. A foul smelling discharge may be due to the same benign condition. A necrotic discharge with tissue debris is a late condition of cancer but a serous, slightly bloody discharge resembling beef brine occurs in the very early stage and is usually characteristic. The physician should never allow himself to be deterred from making an examination, *even if the patient is bleeding*. To wait until bleeding ceases may mean the life of the patient.

It is to be regretted that text-books in discussing uterine carcinoma call so much attention to such factors as age, family history and social conditions of the patient. While it is true that the disease is more common from the fortieth to the fiftieth year, a relative large percentage of cases occur much earlier. In fact the writer's experience in a large series of carcinoma in women in all walks of life showed the average to be 38 years, — the youngest being 20, and the oldest 83, with a surprisingly large number below thirty. We may repeat, therefore, *that the age of the patient is not an important factor in the diagnosis of uterine carcinoma*.

So much importance has been made of the family history that most physicians are greatly influenced by it. In our same series of cancer cases, a family history was obtained in only about 18 per cent and most of these were decidedly doubtful, so that now we disregard entirely the family history in so far as its being a factor in the early diagnosis. It is true that occasionally remarkable instances of apparent heredity are encountered such as in the family of Napoleon, but these should be considered as coincidences rather than diagnostic data.

We have been taught that trauma plays an important part in the etiology, and while it is true that carcinoma of the cervix occurs most often in women who have borne children and who consequently have a traumatized cervix, yet we must remember that every operator of considerable experience has seen carcinoma of the cervix, and more often carcinoma of the fundus, in nulliparous women and virgins in whom the cervix has never had the slightest trauma. Furthermore, we must always remember that *pain, cachexia and loss of weight are not early symptoms and when these symptoms are present the patient has*

*passed the operable stage and is doomed to an early and miserable death.* Uterine cancer is sometimes found early in women who apparently are in the best of health and suffer no inconvenience whatsoever. Not infrequently we are told that there has even been a recent increase in weight, which demonstrates how deceptive the onset of the disease may be and how carefully we must examine every patient.

Of the local signs of cancer none is so characteristic as *friability of the tissue*. This friability and tendency to bleed when grasped with an instrument or when the finger manipulates the cervix, may always be regarded as strongly characteristic. Mere bleeding may be due to various causes, but tissue breaking down is almost invariably malignant. When the slightest doubt exists a careful excision of some of the diseased area including some adjacent healthier tissue should be made and the tissue submitted for microscopic examination. In this matter also, great care must be observed. The excised tissue should be submitted only to an expert pathologist as much experience is necessary to correctly diagnose doubtful tissue. When uncertain as to the skill of the microscopist, a second pathologist should be consulted and if necessary a second section can safely be excised and examined.

Cancer of the cervix in the early stages is not a large mass, in fact it may manifest itself as an ulcer-like area with undermined edges. Such lesions are frequently treated routinely by caustics, tampons, etc., without the real disease being suspected. Any ulcer-like lesion of the cervix that does not respond to cleanliness and a few ordinary applications should be referred immediately to an expert for diagnosis. Prolonged treatments have been responsible for many cancer deaths and the delay is often due to unwillingness of the attending physician to ask for consultation, or to his unshaken belief in the efficacy of the time-honored and much abused local treatments.

It must be remembered that there are different forms of uterine carcinoma: namely (a) carcinoma of the vaginal portion; (b) carcinoma of the cervical canal; (c) carcinoma of the uterine body. The vaginal portion may be the site of either the exfoliating or cauliflower type, and the infiltrating or nodular form. The exfoliating form is the most easily recognized as inspection through the speculum shows the cervix enlarged and soft with minute polypoid projections that not only bleed on manipulation, but break down easily, which distinguishes the condition at once from benign polyp or erosion.

If the growth is situated within the substance of the vaginal portion, it is hard, irregular, nodular and cartilaginous to the examining finger. When the overlying mucous mem-

branes are intact, the diagnosis is difficult but when ulceration occurs the picture is characteristic, although the tissue breaking down is not abundant as in the cauliflower variety. Frequently it is necessary to employ considerable force either with the finger or an instrument to penetrate the cartilaginous area, and in suspicious cases such manipulation is imperative for an early diagnosis.

In differentiating carcinoma of the cervix from other conditions we may encounter benign mucous polyp. The surface while bleeding is not friable and each polyp has a pedicle which is not infiltrated but superficial. Again, acuminate condylomata, especially when occurring during pregnancy are suspicious, but unlike cancer, they are multiple and are found in other parts of the vagina and leave no ulcerative base when removed.

Erosion of the cervix when accompanied by laceration and ectropion has an angry appearance and is also attended by occasional bleeding and abundant discharge. However, the irritation is superficial and the tissue is firm. Such a lesion is frequently benefited by treatment but as sluggish erosions should be considered precancerous, careful excision and repair of the cervix is advisable.

The so-called cystic degeneration or follicular erosion of the cervix manifests itself as large, hard, irregular nodules scattered throughout the superficial and deeper portion of the cervix. On puncturing these enlarged Nabothian follicles, clear thick mucus escaped which establishes its benign nature. During pregnancy such a cervix is greatly enlarged, discolored and is very suspicious in appearance.

Ulcerations occurring in the prolapsed exposed uterus form irregular ulcerated areas, involving not only the cervix but other portions of the vagina that have been subject to friction and irritation. The floor of such an ulcer as distinguished from carcinoma, is free from infiltration and with replacement of the prolapsed uterus into the vagina for a few days distinct improvement is noted at once. Similar ulcerations and bleeding may occur as the result of an ill-fitting or rough pessary. Cleanliness and rest for several days alter the clinical picture. Such ulcers should be kept under careful observation however, as such long continued irritation may be a decided factor in the development of subsequent malignancy.

It is obvious that the diagnosis of cancer of the cervical canal is more difficult than in the former variety. As the os is usually closed the palpating finger does not recognize the growth easily except that some irregularity and hardness of the cervix is noted in addition to the bleeding that results from the manipulation. The careful introduction of the finger or

curette into the cervix will reveal the hard, irregular, but more especially the friable walls of the canal. The lateral vaginal walls as well as the parametria are early involved in this type of cancer which makes the prognosis more grave. Rectal examination is often valuable to demonstrate the supra-vaginal thickening which may not always be recognized by the finger in the vagina.

The clinical picture in the early stage is really that of carcinoma of the fundus from which it must be clearly differentiated. It must also be differentiated from small fibroids situated low in the uterus or cervix. The so-called senile vaginitis or cervical catarrh in women past the menopause may cause suggestive symptoms of carcinoma on account of the foul odor and slight bleeding. In these conditions, however, there is no enlargement or friability and cleansing applications soon show the absence of malignancy.

Cancer of the uterine body is frequently overlooked because it does not present any characteristic symptoms as in disease of the cervix. Moreover, the disease occurs in about one of the body to fifteen of the cervix. Most carcinoma of the uterine body occur after the menopause and practically the only symptoms are bleeding, slight at first, and a foul, watery discharge more pronounced than in cervical carcinoma. Regular labor-like pains are sometimes present especially when the cervix is not patulous. In the early stages the uterus shows very little if any enlargement as it usually occurs in an atrophic organ. The diagnosis can be made only by the sound or curette. Cheesy, granular debris is usually quite characteristic, although it must be carefully differentiated from hypertrophied or decidual endometrium, mucous polyp, degenerating myoma, or remains of abortion all of which may present the same symptoms as cancer. The expert pathologist alone can make the diagnosis and his services in such conditions must always be sought.

The family practitioner occupies a position of exceptional opportunity for the proper dissemination of knowledge regarding cancer. He is in intimate contact with his patients, and he enjoys their confidence, and consequently any advice or instruction coming from him will have infinitely more weight than magazine or newspaper articles and lectures. It is therefore imperative that he should be faithful to his trust and constantly guard and protect his patients not only against the evils of self-drugging, nostrums, quacks and improper medical knowledge, but he should instruct them, particularly his women patients, regarding menstrual irregularities and he should insist upon an immediate examination when any unusual symptoms arise. Furthermore, as a wise prophylactic measure he should

encourage every woman who has passed her fortieth year to have an examination of her pelvic organs at least once and better twice a year. The slight sacrifice of time and delicacy will be more than repaid by the satisfaction obtained both by the patient and the physician. Not only should the patient be instructed to return, but definite bi-yearly dates should be agreed upon for examination. It is by such insistent and persistent efforts that hundreds of useful lives may be saved.

The practical deductions to be made therefore are:—

1st. That cancer of the uterus is frightfully prevalent.

2nd. That delay is fatal and that early diagnosis alone will save the patient.

3rd. That every unusual and irregular bleeding or discharge should be carefully investigated at once.

4th. That the family physician must properly instruct his patients regarding the early signs and symptoms of the disease.

5th. That frequent examination of women past the fortieth year should be encouraged.

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## DISTINCTIVE METHODS OF CANCER RESEARCH

By H. W. NOWELL, M.D.

I have devoted my study to but one type of malignant disease and that is the carcinomatous type, and I shall endeavor to place before you the distinctive methods of carcinoma research only. You will note that I have a broad field in which to roam about. Active research has been going on in all parts of the world since the disease was first named, and up to the present time who is able to judge whether the efforts have been worth while? Evidence shows us that growths of this character are on the increase in civilized lands. The reason for this seems to be a mystery. Many writers are of the opinion that bacterial life is responsible; others that modern food is responsible, and a few that heredity plays an important role. The nerve element in relation to the possibility of being the basic causative factor has been written upon but little.

In previous papers I have referred to the numerous theories of cancer causation; it seems hardly necessary to review the same at this time. I shall, however, discuss my theory as to the cause of carcinoma, for the positive determination of an etiological factor in carcinoma is essential to the solution of the major problem. The theory to be propounded does not deal with the problem in its entirety, but only with one or more phases of the mechanism of cancer production. We know that carcinoma is on the increase; to what extent do the modern

methods of living influence this increase?—a question which requires a great deal of thought.

Let us consider the human body as a whole, and the demands that are placed upon it. We are composed entirely of cells; these cells vary in different parts, but the combined co-ordination produces the normal harmony of the healthy body. We know that with one exception there is a constant change in cellular formation, new cells being constantly produced, the older cells breaking down to form waste products, and as such eliminated. These changes are fairly constant, varying only in degree, during the different stages of life. The greatest change takes place in early life, gradually diminishing with advancing years. Ross claims that cell proliferation is due chiefly, if not entirely, to the action of chemical compounds upon the cell body. Probably these chemical compounds are the result of cell death. In middle life there is a greater death of cells, this being in excess of cell production; hence the greater chemical reaction and also the greater demand upon the eliminative organs. This, together with the modern methods of living (food, social and business duties) increases the demands upon the body, especially the brain, the source of all nerve supply, by overtaxing the eliminative organs to such a degree that there is an excess of waste material in the body constantly. This waste is a toxin which seems to have direct action upon the nerve centers (the blood being the carrier); the toxin being constantly on the increase if not corrected. Now the exception, the brain cells remain constant; they increase in action only as they are called upon to perform certain kinds of work; in other words, they are trained to do their work. I will repeat, combined co-ordination produces the normal harmony of the healthy body. It is impossible for impulses to be normally received and transmitted from the brain when excess of toxin is present. The human body protects itself against foreign invasion of toxins in every form. The nature of this protective substance must vary with the character of the toxin. It has been definitely shown that bacterial toxins stimulate the increase production of a protective agent which destroys bacteria; hence there is reason that if the toxin can be isolated from the cells of carcinoma and shown to be specific, it should have a beneficial influence toward producing a protective substance when injected into the human body. It is the consensus of opinion that irritation is a factor in the causation of malignant tumors, but only so far as lowering the resistance of the local area is concerned. My work is based on the well-founded theory that abnormal metabolic conditions obtain during the development of malignant neoplasms, and that the deleterious influence

of carcinoma upon the organism is due at least in part to the toxic products of such altered metabolism. I have reasoned that the foci of morbid cellular activity should contain the toxin substances responsible for their continued growth and propagation.

A brief review of the distinctive methods of carcinoma research by the different men is permissible at this point: During the many years of research it is found that a greater number of the workers have spent their time studying cancer therapy, neglecting the first and most important step: etiology.

The majority of the various theories may be divided into two groups; namely, that assigning the cause to bacterial or parasitic origin, and that based upon biological or chemical consideration. To the first class belong the long series of attempts to isolate some specific micro-organism, whether bacteria or protozoans, attempts which up to the present, at least, have failed to demonstrate conclusively any specific connection between the numerous organism exhibited and the establishment of the morbid process. The results of the searching investigation of Doyen's "*micrococcus neoformans*" would seem to show his contentions to be wholly without foundation. From time to time we hear that someone has isolated a specific parasite, the most recent announcement being made by Schmidt. Judgment must be suspended, however, until we have more definite information.

Dr. Peyton Rous in his recent work at the Rockefeller Institute for Medical Research has shown that the filtrate of a malignant sarcoma of the hen was capable, by subcutaneous injection, of establishing similar tumors in hens of the same species. While this work is most noteworthy, and may possibly place the parasite as the cause of sarcoma, it would also demonstrate the fact that the cause of carcinoma is from an entirely different source, since up to the present time there is no report of similar results obtained with tumors of the carcinomatous type. The assumption of the existence of an ultra-microscopic and hence at present not-demonstrable organism would seem to have a dialectic rather than scientific warrant in carcinoma at least.

Dr. J. Walter Vaughn has devoted considerable time to the study of specific cancer therapy, and has obtained definite facts of scientific interest. His work is based on the theory that through altered chemical nature the normal tissue cell changes into the malignant cell. This being so he claims the chemical difference in the cell's protein content from a normal tissue cell should make it possible to sensitize an animal to one protein and not the other. The administration of the sensitized serum

was discontinued, since in over 50 per cent of the cases in which it was tried, the serum complications rendered it impracticable. His next step was to ascertain whether the specific ferment could be obtained free from the undesirable serum proteins. This he claims to have isolated from the mononuclear leucocytes. The final product was given the name of anticancer globulins. He also uses a cancer cell vaccine.

Morton says of chemistry of the cancer tissue: "This hope is the more justified when we take into account the chemical constitution of cancer tissue. Without entering into details it may be said that there is some reason to believe that the cancer cell actually represents the antipodes of the normal somatic cell. It contains a heterolytic enzyme. It apparently draws its nourishment from the somatic cell, lives at its expense, and eventually destroys it. Neglecting the unquestioned fact of its remarkable facility of proliferation, there still remains this more remarkable quality of being able actually to tear down the albumins of the body cell—in fact, devour them. In this way at least we can best account for the inroads of malignant tissue into normal tissue. Mere displacement by abundant cell division affords an inadequate explanation. A number of observers in recent years have shown that the cancer proteins exhibit a high content of glutaminic acid, alanin, phenylalanin, diamino acids, and aspartic acid. This fact, as well also as the susceptibility of the tumor tissue to trypsin digestion, and its insusceptibility to pepsin digestion, has been cited as evidence that the tumor is of a specific character."

"According to Petry, the cancer cell has a ferment, acting in an acid medium. The reaction of cancer tissue is apparently acid, while that of the normal tissue is alkaline. In short, it would seem that the chemical composition of the cancer cell differs radically from that of the body cell."

It hardly seems necessary to consider the older theories of Ribbert, von Hansemann, Adami, Oertel, and Marchand, and many of the so-called parasitic theories. While these have proved of great value to the more recent research workers, they have failed to bring us any nearer the etiological factor. Some of the more recent work supporting the micro-organism theory has been done by Walker, of Buffalo, by which he believes that he has demonstrated that cancer is produced by a parasite of the earth-worm; and Fibiger, of Copenhagen, who reports that he has induced cancer in rats by feeding with parasites of cock-roaches. Such varied reports received from the many workers would seem to be the greatest argument against the parasitic theory.

Bristol says: "All theories associated with strict morphology,

biology or bacteriology have, up to the present, failed to explain the cause or causes of cancer and other growths. It would seem, then, that the problem should be studied from a different viewpoint."

Of the older theories, Marchand's may have come nearer to the solution of the problem than any of the others. Ringer and Loeb discovered that certain inorganic salts are absolutely essential for the proper metabolism, development and reproduction of the cells of the body, and that these constituents must exist in the blood, lymph and tissues in a constant proportion if cell activity and reproduction are to be maintained.

Based upon the above theory many of the advocates of the cause being due to the absence of these salts as the result of modern food, have published many articles advising the use of foods containing the proper amounts of these salts as one of the best means to overcome the cancer problem.

As a result of some interesting and valuable experiments done by Carrell of New York on the cultivation and development of certain body tissues in suitable media outside the body, the following conclusions have been reached: 'Normal blood plasma is not the best or "optimum" medium for the growth of tissue or organs, each of which probably has its own optimum medium not attained in the body under normal conditions. Slight modifications of the tension, the alkalinity or the addition of certain inorganic salts to normal plasma increases the rate of growth of tissues.'

If this is true of tissues, must it not be true of the individual cells of tissues? Thus we must assume that an individual epithelial cell or connective tissue cell is in a medium, the blood plasma or lymph, which under normal conditions is not influencing the rapidity of growth of such a cell as much as it really has the power of doing when the surrounding plasma or lymph has been even slightly changed in tension, reaction, and inorganic salt content. May not tumor cells be an 'optimum local growth' of cells because of an 'optimum local chemical medium' in which they exist? If there is a parasite which causes cancer, or any other tumor, it would seem that the *individual cancer, or tumor, cell is the parasite*, and that an influence is brought to bear on a normal cell which causes it to take on a parasitical existence. As suggested above, this is possibly a *chemical* influence from the neighborhood, or local medium in which the cell exists, and it acts by markedly changing the molecular structure and entire nature and metabolism of the cell itself, a change which is transmitted possibly to the 'daughter' cells.

Abderhalden, who has done such excellent and important

work in the field of physiological chemistry, has the following to say on the chemical constituents of the cell and its surrounding medium in relation to cell growth and character: 'It is possible that a body cell may contain its individual nature only with difficulty if for any reason its chemical nature and function become seriously altered, and the progeny of such a cell will possess the characteristics of the mother cell so that gradually a whole cell complex will develop which is of a nature foreign to the entire organism and to its metabolism, and in fact the metabolic end products of this new cell complex may exert a disturbing influence upon the metabolism of the remaining cells of the body.'

Apparently there is a connection between these cells and the mother soil—we refer especially to sarcoma and carcinoma—for it has been frequently doubted whether such cells can be successfully transmitted to organisms of a different species. We are, in making these suggestions, very far from explaining the formation of these peculiar, atypical tissues. We only wish to bring forth the fact that with the further development of physiological chemical knowledge new tasks will be set, and that even problems of purely morphological investigations will, in the course of time, become closely allied to those of physiological chemistry. If it is once found possible to compare the metabolism of the cells of a cancer, or other malignant growth, with normal cells, we may certainly expect to obtain a more accurate insight into the nature of such mysterious processes.

In Bristol's summary he has suggested that "The changes in local chemical environment may influence the growth of neighboring cells by causing them to take on increased permeability, absorptive powers, and oxidations, and lead to accelerated activity and growth, even to malignancy." His paper entitled "Newer Ideas Concerning the Problem of Cancer Etiology" is well worth consideration and careful reading by all those interested in solving the problem of cancer etiology.

My theory was formulated during the early part of 1908. I then regarded that when normal cells are excited to pernicious activity, it is due to the presence of an abnormal chemical substance within the cell which has direct action upon the nerve centres, regulating cell growth. If this theory of the origin of carcinoma be correct, then the tissues undergoing these pernicious changes should contain the toxic substances responsible for their continued growth and propagation. My original method of procedure was somewhat unique, but based upon scientific principles.

Working from my theory already stated, I attempted to isolate the toxic substance which it seemed the cell must con-

tain. By various extractive procedures, in previous papers detailed, I obtained a highly poisonous end product from carcinomata which has been found capable of causing in rabbits, neoplasma closely simulating those from which the poisonous substance was derived. From observation it would seem that the poisonous residuum exhibited antigenic properties, resembling those of the true or soluble toxins, since by repeated injections of sub-lethal doses into rabbits, there was obtained an "immune" serum which served effectually to protect normal animals, when injected with lethal doses of the carcinoma "toxin."

During the summer of 1914, dogs were used for experimental work. The solution given intravenously instead of subcutaneously as with the rabbits, the lethal dose was found to act the same but much more slowly than when injected subcutaneously. As a result of this work it was found that dogs could be made immune to lethal doses of the toxin. Further work will be carried out upon these animals.

The problem of passive and active immunization of the human carcinomatous patient was attacked and a brief preliminary report offered. It has been found that a solution of the carcinoma toxin, each c.cm. containing .00002 gms. of the actual substance, when administered hypodermatically at intervals of from five to ten days, depending upon the patient, for five successive doses, has produced evidence of an active immunization. This can be definitely proven only by a lapse of several years, or by a blood test, using the Abderhalden method, which no doubt will be made possible in a short time.

It is evident that this substance isolated by my method of procedure does have a specific action in carcinomatous cases, and further necessary work to determine the dosage and method of administration to receive the best results must be by clinical observation.

Let us weigh carefully the many theories advanced and consider the results of the research work, using these theories as a working hypothesis, and I believe we shall find that the above theory, as suggested by me, will have the balance in its favor, and that it will prove to be the most valuable working hypothesis for future research workers in solving the problem of cancer etiology, which will be the first step in preventive medicine in relation to this disease.

**DIET IN RELATION TO CANCER\***

By Dr. JOHN P. SUTHERLAND

Our President was slightly in error in saying that I would read you a paper upon the subject, "Diet in Relation to Cancer." I did promise to speak on it, but I have not had opportunity to reduce my thoughts to manuscript form:—the subject is altogether too big and I do not expect to do more than to touch on a few of the important points in considering the subject. If we were to discuss it as it ought to be discussed it would take more than one paper, and the papers would not be short at that.

I would like to say that this subject has been on my mind rather continuously for several years past, for it has been my experience to come into contact with a good many cases of cancer. I suppose I have frequently had at one time more cases of carcinoma under observation than of any other one disease, or any two or three common diseases combined, such as diabetes, Bright's disease, pneumonia and tuberculosis, for instance. We have heard also a good deal about it in Society meetings and have seen many references to it in professional and lay literature. At the present time we can take up scarcely a medical or popular lay journal without coming across some article relating to the cause or causes of cancer and to its treatment or possible cure.

As to the frequency of cancer:—I was very much interested, in looking over the reports of our own Massachusetts Homœopathic Hospital, where over six thousand patients are treated in the course of a year, to note that in 1913 as published in the annual report there had been on the medical side twelve cases unequivocally diagnosed as cancer, and on the surgical side two hundred and twenty four cases. There had been in the services of the specialists a series of thirty one cases that were diagnosed as "malignant tumors of the face and neck." I have not examined the records to find out exactly the pathological characteristics of these cases, but it seems only fair to include them in the total. Without these thirty one cases there were treated during 1913 in the hospital, among four thousand medical and surgical cases, two hundred and thirty six cases of cancer. Including the thirty one cases, the total would be two hundred and sixty-seven, which is a rather large percentage of the medical and surgical cases treated.

During about a month in my own private practice recently I have had three fatal cases of carcinoma, and I have seen two or three more in consultation; and I now have under treatment

\* Revised stenographic report of remarks made before the Boston District Homœopathic Medical Society, February 4, 1915.

in my private work quite a number of cases of inoperable cancer or cases that have refused operation.

During the past summer, while attending the Clinical Congress of Surgeons in London, I was struck by the fact of the large number of cancer cases presented in the clinics. There was scarcely a clinic without at least one cancer case, and there were several papers read upon that subject. Naturally, therefore, circumstances and experiences have forced the general subject of cancer upon my mind.

One point has attracted my attention during recent years, and that is the fact that cancer seems to make its appearance earlier in life than was the case twenty five or thirty years ago. I was medically brought up to think that cancer might make its appearance after sixty years of age; it was not very long, however, before cases were found in the fifties, and after a while in the forties. It is now not at all uncommon to find cases fatal in the thirties. I had, only a year ago, three cases at the ages of forty-two, fifty-two and fifty-three. These people were not senile; they had scarcely reached middle life.

As to the causes of cancer:—Research workers are still hunting after the cause. As you know they have been giving a good deal of attention to this matter. They are still hunting for germs and parasites; some are considering trauma; some, hypernutrition; some, heredity; some, influence of embryology; and lately, I am very glad to say, the cause has been taken up from the end of chemistry, and it seems to me that this is the most promising field of research in regard to the cause. We ought to bear in mind, however, that there are two causative factors. We must remember that there is in all probability an exciting cause—trauma, a parasite or germ, or chemical irritant—but as an underlying and most essential cause there must be a predisposition, or susceptibility, or lack of resistance on the part of the tissues that has not received sufficient attention at the hands of our research workers. It is to this that I am especially at this time anxious to direct your attention.

There is no need of describing cancer in any of its manifestations, or of outlining its treatment, as these do not concern us at the present time. But I am desirous that you should think of diet in relation to cancer;—to its possible causative relationship.

Now then what is diet? I may use the term carelessly perhaps; I do not use it in its strictly technical sense but simply as a synonym for food. Diet may seem to some a more euphonious word. My idea in using this word “diet” is not to refer to any prescribed method of feeding people, but just to refer to food itself. I might change the question and ask—what

is food? What are we to understand by food or by diet in the sense in which I wish to use it tonight? I should say that food or diet is the material, elementary or compound, organic or inorganic, from which vital force may construct protoplasm and maintain its efficiency. I think that covers the ground. Food, then, or diet, is simply the material, no matter what, simple or compound, which when taken into the living structure, may be converted into that structure's own protoplasm and may maintain the efficiency of that protoplasm.

From this standpoint all living things need food. This is true of the simplest forms of life, as it is of the most complex. A moment's consideration will convince one that the very lowest forms of life, germs and micro-organisms, for instance, need food. Some get along with very simple forms of diet, while others require more complicated forms. The *protococcus pluvialis* subsists and is well nourished, performs all its work and reproduces on such a simple diet as rain water with the dust and carbon dioxide it contains, such as is found in old buckets, rain barrels or cisterns. Other forms slightly more complicated require something in the nature of carbohydrates. The *torula cerevisiae*, a modest form of life, gets along very well on a starchy substance or a sugary substance, preference being given to the latter. The same is true of the popular Bulgarian lactic acid bacillus. These live, perform their functions, reproduce, do the various things that it is possible for protoplasm to do, on this very simple sort of diet. Still other forms of micro-organisms require something more complicated than carbohydrates. There are germs that we are familiar with in pathological laboratories that do not live very well unless they have blood serum. The malarial plasmodium is rather fastidious because it can live only on blood discs and that sort of thing. Reference might be made to orchids, which get along very nicely on food taken into their organisms from the air. We find that plants (multi-cellular organisms) require certain definite forms of food, but simple forms. It is known, thanks to our agricultural colleges and kindred influences, that certain plants require certain kinds of food, and will not do well on other varieties, that is on other soil. The alfalfa, for instance, will grow on a very definite kind of soil, but will not grow on others. The agricultural population knows something about this sort of thing. They are learning more and more every year, and are taking more kindly than a generation ago to the fact, that in order to secure satisfactory crops the soil must contain certain kinds of food. You may call it fertilizer, if you wish. At all events the soil must contain something which when taken into the multiplying plant cells may be con-

verted into the protoplasm of these cells and help them to reproduce each after its kind.

If we pass for the moment from vegetable forms of life to insect life, we know that the different forms of insects require different varieties of food. Not all can live on the same kind. We are familiar with the elm beetle, the mosquito, the potato bug, and many forms of insectivorous pests, and know how fastidious these forms of life are. It is easy to demonstrate that they prefer certain kinds of food, and do not prosper at all well on others, although when they are hard pressed they will take, and manage to live on, other varieties.

When we come to the higher forms of life, to the reptiles, fishes, birds, mammals, we shall find that the same principle holds in each case. These different forms of life require as food something that may be converted into each particular kind of protoplasm and help it to perform all its varied functions, terminating in reproduction. Among the mammalia, for instance, we find animals having good, clean blood, strong bones, and effective muscles. They have strength and endurance, and they have also certain mental and psychic qualities which are enviable, more particularly the herbivora. They live and perform their life work on food that is composed of certain definite proportions and qualities of elementary substances. One other point I wish to emphasize in this connection:—namely, that all these forms of life, no matter what they are, *have their food provided for them by a wise and generous Nature.*

So we can go on through all forms of life until we get to the mammal, Man, and when it comes to the human animal where are we in regard to this subject of diet? We certainly do not find that the human animal thinks it can get along on a very simple diet. It wants the whole world; it wants everything. Variety seems to be truly the spice of life. Whether the craved variety is necessary or not is another matter. I think our knowledge and experience may convince us that even the highest form of mammal, man, can live and live happily and have a strong, vigorous body on a simple form of food, very different from what the modern civilized man is in the habit of getting. Naturally, however, that food must contain certain elementary substances in different proportions and quantity.

It is pertinent to ask right here—is man's food provided for him by Nature as the food for animals is provided for them? I think if we carefully consider the question, we shall have to answer, yes!

Now it seems to me a very curious thing considering the tremendous importance of this subject of food, that there should

be prevalent such contradictory views. I do not know of anything, in politics or religion or anything else, that will bring forth so many contradictory views as the subject of diet. The moment that is thrown into a company you are going to get many opinions and not two alike. That is interesting and suggestive, because whenever we get a variety of contradictory views I think we are justified in saying that no one knows very much about the subject. In physics we do not get the same contradiction of views on many things. There is marked unanimity of opinion. The same is true in chemistry, in anatomy, in all sorts of sciences. Fundamental principles are agreed upon rather unanimously. Why is it then that, considering the importance of this subject of food, there should be such contradictory, and often, diametrically opposed views? My solution is that we don't know much about it, and that, I think, is no credit to us as representatives of the highest type of life on the face of the earth. There are opinions enough, but there seems to be a pathetic lack of definite knowledge. We have had in medicine within a few years certain authorities who have attempted to tell us something about food. We have had Haig, the uric acid man; Salisbury, the raw beef man; Chittenden, the low protein advocate; Kellogg, the cereal and salt-free diet man of Battle Creek; Fletcher, the advocate of intensive mastication; McFadden, of physical culture and vegetarian notoriety; Dr. Wiley, of pure food fame (although by the way it is a very simple matter to prove that a person may kill himself with pure food); and Dr. Alfred McCann, whose views on the whole seem to me more sane and more rational than the views advanced by most of the so-called authorities on the subject. We hear of "vegetarian diet," of "non-flesh diet," and of various forms of diet. It is enough simply to mention them to prove the point that there are altogether too many views on the subject, and that, once more I think, establishes the fact that we don't know much about it;—and that is nothing for the medical profession to be proud of.

What are some of the faults of our civilization as far as this question of food is concerned? The aim of people at the present time is apparently to furnish something in the form of a luxury, a delicacy. They seem to feel that in order to show hospitality it is necessary to give something extra, something out of the ordinary. The idea seems to be to get a concoction, so mixed that it is impossible to recognize any one thing definitely. And it is strange, also, that among mankind the idea of hospitality should show itself most prominently in the matter of eating. We feel, at least some do, if we meet a friend, the proper way to show our regard for him is to ask

him to take some "liquid refreshment." If possibly he comes to the house, we must get up a dinner for him. If some prominent man from a distance comes to us, we feel that we must get up a banquet to testify to our regard for him. I feel in thinking the matter over that mankind ought to have advanced far enough to have methods to testifying to loyalty and affection and respect other than that of feeding our friends. I rather feel that we make a mistake in confining our hospitality to the low plane upon which the bodies themselves live.

As far as food itself is concerned, we should always keep in mind the purposes to be subserved by food, and these are something more than satisfying the appetite or pandering to a depraved palate, or than the common idea of nutrition. People think that in order to be well nourished one must be plump or even fat. They say to a person who is light weight, "You're not well, are you? Aren't you losing flesh?" People have an idea that rotundity of figure, even obesity, is a sign of being well nourished. We overlook the chief function of food when we think that. The idea of nutrition should include something more than the production of weight. That is simply one element. We should think that nutrition means the development of energy, of vigor, of real vitality, of efficiency, all-around efficiency, of endurance, and of resistance against malign influences of all sorts, and this part of nutrition is not sufficiently considered.

Are there any grounds for thinking that what we call food will produce untoward effects? We shall answer that in the affirmative because everybody knows, even the laity, that some things taken as food are capable of producing indigestion, flatulence, nausea, constipation, diarrhea, scorbutus, and different varieties of diseases. These things are well known and somewhat suggestive. There are some conditions, some well known diseases, that are unquestionably due to taking as food something that is not food in the highest sense. One may take an unbalanced ration, or may eat a good deal too much of some things and not enough of others, and therefore certain disease conditions are developed. This is easily proven, for instance, in infants. Infant feeding is well known to be a very important thing, and it is well known that a variation of a fraction of a percent of protein or fat or sugar will show itself very quickly indeed in some sign of ill health, in pain or suffering of some sort. The subject of rickets can never be fully considered without thinking of the dietetic end of it. Diabetes may be produced by the over-use of sugar or sweets or sweet-producing food. That is, diabetes may be in some instances a result of an unbalanced ration. The disease beri-beri is a familiar illus-

tration of a disease that is produced by an unbalanced ration. We know that this affection is a peculiar organic disease of the nervous system. It is very common and has been from prehistoric times. Millions of lives have been lost through it. It is common among those people who eat an excess of polished rice, a fact which is acknowledged by all research workers. It is doubtless due to the removal of the mineral matter from the rice in the polishing. It is to me a particularly significant fact that people may eat a pure food, rice, and yet if they allow it to predominate in their diet they find it capable of producing an organic disease of the nervous system. From forty to sixty percent of the cases are fatal. This instance of a fatal organic disease being produced by what is called food has not been, I think, sufficiently appreciated. We simply hear of it, and think of it as a curiosity and then immediately forget all about it.

The prevalence of bad teeth in children is another point worthy a moment's consideration. It is known that millions of children in this country are suffering from defective teeth. This results in imperfect mastication, imperfect salivation and is the starting point of indigestion. Digestion being interfered with, development is retarded or imperfect, strength is below par and the child is handicapped in many ways. This undesirable state of things is the result unquestionably, I think, of the sort of food that the majority of children have. Not long ago I was passing near one of our large public schools when the children were out for recess and taking their lunch, and I was interested to find that the food their lunch boxes contained consisted of white bread—every box had some of it—jam, jelly, preserves, cake with white frosting and yellow frosting and chocolate frosting, and doughnuts. That is all I saw. I didn't see any rye or black or brown bread, any lettuce, eggs, cheese, anything that represented proteins or minerals. That is the kind of stuff those children were eating on that day and in all probability every day of their lives and that is why they have defective teeth. And that also is why on our Fenway we have the Forsyth Dental Infirmary for children, an institution founded by generous hearted men to meet a need that should never have existed. They put a lot of money into this building and its equipment, and it will cost a lot of money to run it, but I wish to emphasize the claim that the necessity for such a charity should never have existed. Children eat sweets and starches in endless combination, and however clever Nature may be and however wonderful the human body may be, Nature through the human body never was, is not, and to all time never will be able to transform starch into phosphate

of lime or transform sugar into iron or potassium or manganese or any of the minerals that are absolutely necessary for an efficient human body.

Everybody who is interested in medicine is willing to acknowledge that there is a therapeutic value to diet. The cure of tuberculosis is due to a truly nourishing course of diet plus an abundance of fresh air. Rheumatism and gout cannot be treated successfully without modifying the vicious diet. Diabetes can never be cured without modifying the diet which helped to produce it, and so with many forms of kidney troubles, arteriosclerosis and many other forms of disease. Almost all forms of disease are now treated partly on dietetic lines. That means something; it means that some kinds of food are positively injurious, and these kinds of food should not be taken.

Let us ask then — what sort of diet furnishes the things that really are needed to establish health, to make a strong, vigorous, efficient body? Starch, sugar, fat — no doubt about that — but also protein so-called, and mineral salts are needed. It is claimed that in the human body there may be found sodium, potassium, iron, manganese, magnesium, phosphoric acid, traces of chlorine, fluorine, lithia, and even arsenic. All sorts of things that are found in the mineral kingdom are needed in the body, and the vital question is, what kinds of food will furnish these things and furnish them in an assimilable form? I think we find everything that is needed to produce strong, efficient, healthy protoplasm among the grains, the so-called "cereals," of which we have a large variety; wheat, oats, rye, barley, corn (yellow and white), rice cultivated and wild. These things have been furnished by a bountiful Nature in large quantities. They contain starch, fat, some a little sugar, and protein as well as different kinds and quantities of mineral matter.

Fruits, berries, vegetables, and nuts — these things also are given to us abundantly by a Nature that evidently, through some prevision knew exactly what would be necessary to maintain life. We have to acknowledge, I believe, if we thoughtfully consider the matter that Nature has made provision for maintaining life in an effective form and healthy condition in accordance with the original plan.

Included in the ordinary diet we find milk, butter, eggs, cheese, meats, fish, and things of that sort in unending combination. How many of these things are really necessary and wholesome, and in what form and quantity they should be taken have not to my knowledge been definitely decided.

To consider for a moment the cereals enumerated; — The ease with which they can be preserved is worthy of notice —

no pickling, no salt, no cold storage, etc., are needed. They hold on to the vital principle for generations. It is a well known fact that some of these varieties of grains have been put away with mummies two, three and four thousand years ago and in the course of time have been taken out and planted and have reproduced after their own kind. For years and years they have held on to the vital principle. I think this means something.

The chemical constituents of the grains are numerous. They contain in fact everything needed to maintain life with the simple exception of water. They are up-building and constructive and devoid of chemical wastes. Not all these things are true of meats, milk, eggs, etc., and some inference may be drawn from these facts.

[The speaker then exhibited samples of whole wheat, oats, rye, barley, corn and rice; and samples of whole wheat meal, oat, rye, barley and corn meal ground by himself as standards for comparison. These are the things he claimed that were intended for food and that should be used as the chief foods for humanity. By contrast, he exhibited samples of the unfortunately universally used white flour; the so-called and he believes illegally and falsely called "whole wheat flour"; rye and barley flours, corn starch, pearled barley and polished rice, all of which he heartily condemned as totally unsuitable for universal consumption as food capable of sustaining life in an efficient, vigorous, enduring condition.

He concluded:—]

Man's body is multi-cellular.

Each cell needs and must have for its sustenance and work those chemical elements and compounds which characterize the special variety of protoplasm and the special work of the particular cells.

Man does not know the composition of the body as a whole or the individual cells of which it is composed.

By analogy, Nature, which has amply provided food for other forms of life, has provided for Man.

Man's interference with natural foods by his art has unquestionably resulted in the production of bad teeth, obesity, constipation, indigestion, rickets, gout, diabetes, etc.

Man's interference with Nature's food, as in demineralizing rice, has brought about an organic fatal disease of the nervous system, — Beri-beri. Why is it not reasonable to claim that demineralizing wheat, corn, etc., and eating the product as exclusively as it is eaten by civilized man should be the *cause of the feeble resistance which is the foundation of cancer*, without which cancer could not exist?

Of course, I cannot and do not claim that the eating of white flour and its many attractive and pernicious products is the cause of cancer, but I know it is demineralized wheat and therefore an unbalanced ration, and I am strongly convinced that it is an injurious thing to eat continuously as a staple article of diet. It simply cannot furnish to the body the elements necessary to build sound and healthy tissues, any more than polished rice can. And I contend that as eating much polished (demineralized) rice is capable of producing Beri-beri, so eating demineralized wheat (white flour) corn and vegetables (potato for instance) is a violation of Nature's laws and is sure to produce evil consequences, among which may be the lack of resistance, or the susceptibility, or the predisposition to malignant disease.

That such a thing as disease should arise and afflict humanity is nothing more or less in my opinion than a development due to humanity's own ignorances, mistakes and perversions; — the result of wrong living.

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## THE INTERNAL TREATMENT OF CANCER

By A. S. TUCHLER, M.D., San Francisco, Cal.

The successful treatment of this disease, no matter where located, depends on the stage in which the physician is consulted. Cancer is but the natural evolution of a gradual degeneration of tissue, however benign or innocent the primary cause may have been. Its local appearance can usually be traced to some slight injury, bruise or irritation. A stage of chronicity will be established, to which little attention will be paid at first. This may continue for a long time, perhaps a period of years, until an age is reached which is commonly termed the cancerous age, but which is only the gradual decline in vigor, vitality, and natural resistance of the individual.

It may be at any time after the age of 45 that this is most manifest, although any age may exhibit this degenerative condition. Therefore in the treatment of cancer, both general and local, this depraved condition of the system must be the first thing to overcome in order to restore the sufferer to as near the normal standard of health as possible. "The general health of the patient must be better before one can expect any improvement in the cancer itself. This is the very foundation of a successful treatment of cancer." (Jones). This improvement will then bear on the local growth so as to produce alterations in the cell structure and a vital change in the growth itself from the malignant to the benign condition, and its consequent absorption, if it is still intact and the skin not broken. Com-

plications must be first corrected before any progress can be made toward a cure.

The malignant stage is characterized by a low blood pressure as well as a subnormal temperature. The pulse will also point to this deficiency of the vital forces, in the lack of fullness and force, from that of the normal state. Any improvement will be noted by the return of a greater volume and strength in the pulsation, therefore the first indication in the treatment will be toward a correction of this devitalized condition. When one considers the amount of waste matter which must of necessity be eliminated in order to promote a better condition of the blood-making organs, any method of treatment except as here outlined and which is directed to the correction of this cancerous condition, will prove unsatisfactory and the cancer will return in a short while. A remedy will be needed to tone up the vital forces while this cleansing process is going on and it must be taken until the strength of the patient is restored, otherwise he will succumb to the deleterious influences of the pent up toxins. There is none better than Strychnine Sulphate in 1/30 grain doses three or four times a day; Nuclein solution (A. A. Co.), 30 drop doses twice a day dropped on the tongue, will also be found an excellent vitalizer. Some form of iron may be also indicated in order to raise the hemoglobin content of the blood, as in this disease anemia will usually be found a predominant factor.

Elimination is an important matter to be considered, owing to the perverted condition of the glandular system. Normal secretion and excretion must be reestablished in order to rid the body of the toxins which have been absorbed from this abnormal condition, therefore the liver, kidneys and bowels must be looked after. Constipation will always be found to exist in these cases. There will usually be a history of perfect regularity of the bowels or nearly so, in previous years; a gradual change in this respect will be noted in the exact ratio to the progress of the malignant stage; therefore in the successful treatment of these cases it will be also necessary to see that the bowels are regularly emptied. Indicanuria and acidosis must be corrected if present. The skin is also an important factor to be considered in elimination. The acid or alkaline bath two or three times a week is an important adjunct in the treatment. When the tongue is red, the vinegar bath, in which about one quart to the tub can be used, or the sponge bath daily; when the tongue is pale and perhaps coated, then Magnesium Sulphate, of which one pound to the bath two or three times a week will assist very materially in this process of purification.

The tongue is a most important organ to consult in the treatment of this disease and will usually point to the indicated remedy. It will direct the general treatment, since its deviation from the normal, both in color and form, is an expression of a constitutionally proportional deviation. The acid or alkaline tongue with its respective degree of coating, or the lack of it, or the broad or pointed tongue, is an expression of this perverted constitution. So this condition must be corrected, either with an acid, like hydrochloric acid or any other as may be indicated, or an alkaline remedy, such as Sodium Sulphite or the Sulphocarbulates, or any other which may be called for by this special coating of the tongue, before one can expect favorable results from remedies which may be directed to correct the cancerous condition.

Single remedies in the treatment of cancer, if properly applied according to the direct indications, will give favorable results in these cases as well as in any other diseased conditions.

Phytolacca in from five to ten drop doses of the specific medicine every three hours, is a remedy that will be called for more often than any other, on account of its influencing the glandular system. The indications calling for it is a pallid mucous membrane, sense of irritation and burning, mammary fullness with pain, hardness and swelling of a purple hue; the tongue will be of a pallid, somewhat leaden color, very little coated, and looking slick as if covered with some glutinous material. It is the first remedy to be thought of for this constitutional dyscrasia and can be depended upon in cancer of the breast and the uterus and in the various affections of the lymphatic glands with hardness and swelling.

Scrophularia Marylandica (Fluid Extract) is a most valuable remedy in advanced stages of cancer when there are lumps in the neck and in the axilla.

Echinacea (Specific Medicine) in from ten to twenty drop doses every three hours will relieve the pains of cancer, especially that of the throat, and will overcome the terrible odor of this disease. In a patient of cancer of the throat where morphine had previously failed to give comfort, this remedy relieved the pain and destroyed the odor. This therapeutic fact was noted by the writer in a contribution of an article in the California Medical Journal in 1892, about the time when this drug came into use. This was also subsequently noted by other observers.

Rumex (Specific Medicine) as an iron carrier and tonic will be indicated when anemia is present. Doctor Vasser has found it to be an excellent alterative and tonic, equal if not superior in this respect to Echinacea.

Double Sulphide is a cancer remedy of exceptional value,

according to Doctor William H. Burgess, who is the originator of this remedy. This observation has also been verified by other observers. It will destroy the germs of cancer and is an excellent antiseptic for the stomach and bowels. It is directly indicated when the tongue is coated, with red papillæ prominent and with indigestion. The dose is one grain every hour for ten hours or until the patient is saturated with the sulphides and which will be evident from the odor emanating from the sufferer; then it can be given from four to five times a day.

Thuja (Specific Medicine) in cauliflower cancer of the cervix also in cancerous tumors of the rectum and other fungous growths, will be found reliable. It can be given in ten drop doses once in three hours and also injected into the growth or tumors in doses of from ten to twenty drops every other day and applied full strength externally.

There are certain remedies which have a direct influence on cancer, situated in different parts of the body. Acetic acid is a remedy which can be depended upon to dissolve the cancer cells of gastric cancer or of the upper part of the intestinal tract. The tongue will be red and sticky as a rule, which shows irritation of the nerve centres. It can be given in five drop doses, once in four hours, of the 1x dilution and also a compress over the seat of pain or tumor kept wet continually with this dilution and covered with oil-silk.

Jatropa (bull nettle) root will also be more applicable to cancer in the rectum in from one and one-half to three grains once in three hours. Doctor A. J. Johnson of Muscogee, Florida, finds that the bull-nettle root, in conjunction with double sulphides is especially applicable to negroes. In small-pox the latter drug does wonders among these people.

In cancer of the liver we have such remedies as cholesterinum and chelidonium which can be depended upon as curative remedies when this organ is the seat of this affection. Cholesterinum is indicated when the liver is much enlarged, with cachexia and emaciation, skin is tawny, conjunctiva yellow, the hands will be pressed over the liver on account of the burning pain and heaviness and especially when walking. This remedy is thus called for and can be given with confidence in six grain doses, every four hours, of the 3x trituration.

Chelidonium (Specific Medicine) five drops three times a day is needed when there is perpendicular enlargement of the liver, and the face is of a dusky hue.

Hydrocotyle Asiatica is the first remedy to be thought of in skin cancer, like Lupus. It is indicated when there is profuse perspiration and the skin is covered with a dry eruption, thickening of the skin and exfoliation of scales. The dose is ten drops

once in three hours of the 1x dilution. As a local application to destroy the diseased surface, the solidified carbon dioxide is an excellent remedy.

The local treatment of cancer must be adapted for the absorption or destruction of the cancerous tissue. Since cancer is not a local disease, per se, but a manifestation of a constitutional dyscrasia, therefore the external application must be in conjunction with the indicated internal remedies. These should be selected which will bring about the removal of the cancerous tissue without pain, and also promote the healing of the sore or cavity. The method of treatment, as advocated by Doctor Eli G. Jones, has been found by the writer and others to be comparatively free from pain and is reliable. It has stood the successful test of years of experience. There is no arsenic or cocaine needed in these external applications.

In the different varieties of internal and external cancer, the above outline of treatment will prove to be satisfactory both to the patient and the doctor. In this short article it is impossible to enter minutely into the details or technique of the direct treatment and the management of the various localized forms and varieties of cancer, but it is possible to point out the way to a more definite and systematic study of this subject, and also to call attention to the fact that there are remedies which can be utilized and relied upon in the cure of cancer.

As will be seen from the above, there are certain remedies which have a direct influence on cancer situated in different parts of the body. A remedy like *Jatropha* which has a peculiar action on cancer of the rectum will not be applicable to a cancer of the mouth. Nor will *cholesterinum*, which remedy is needed in cancer of the liver, be the one for cancer of the breast. *Phytolacca*, which can be depended upon, in cancer of the breast and uterus, will not be the remedy for stomach cancer nor cancer of the upper intestinal tract.

The diet of cancer patients must be nutritious and wholesome. The pernicious habit of eating fast and of bolting large quantities of food, and also of eating many varieties of food at one meal, is a fruitful source of disease. As only a certain amount of food can be assimilated, the balance is refuse matter and is a prolific source of auto-intoxication and furnishes a breeding place for parasites. The clear moist red tongue will tell us if the food agrees and is being properly digested. Whatever is eaten, must be chewed thoroughly and slowly. The bolus must not be washed down with liquids, but masticated over and over again until the saliva will be sufficient to lubricate the food before it is swallowed. Each case must be studied and advised as to what form of food will agree. However,

coffee or tea or liquors of any kind must be entirely avoided; also pies or pastry or fresh bread. Owing to the little nutriment in white bread and which is also a prolific cause of indigestion, this should not be consumed. Those addicted to any drug or liquor habits, are unfavorable subjects for treatment, therefore these drugs should not be prescribed by the medical man, since they will interfere with elimination and retard recovery from chronic disease.

In a case of sarcoma of the breast in a lady eighty years of age, who had refused operation, the following treatment proved curative: Briefly, this was the condition: There was a hard lump about the size of a walnut on the right breast, two inches to the right and above the nipple. The skin was not broken but the surface was red, hard, uneven and painful. The temperature and blood pressure were below normal. Said she always felt weak. She had no appetite and bowels were constipated, skin was sallow and cachectic, eyes had yellow spots in the pearly white conjunctiva, pulse weak, tongue pale and coated with a dirty white coat. She was given strychnine sulphate, grain  $1/30$ , three times a day. Phytolacca and Echinacea, equally in ten drop doses and also Sodium Sulphite in ten grain doses given in alternation every two hours. The bowels were also properly regulated. Magnesium Sulphate packs, one tablespoonful to the pint of warm water, was applied on the cancer constantly. She gradually improved, but continually complained of weakness. For this condition, Nuclein solution in thirty drop doses twice daily on the tongue and to be absorbed in the mouth was given in conjunction with the above treatment. She soon regained her strength and the gradual absorption of the cancer took place. She was in perfect health for two years afterwards, when she succumbed to pneumonia after three days illness.

In a résumé of the above the following conclusions are arrived at:

1. Cancer is curable by internal medication.
2. In order to obtain this result, the vital forces must be restored to the normal standard or nearly so.
3. Elimination and restoration must go hand in hand; one without the other will be disappointing of results.
4. Remedies must be selected according to their respective direct indications in order to obtain a satisfactory result.
5. Above all, the physician must be familiar with and have a perfect confidence in his remedies.
6. In order to obtain successful results, the doctor must be conversant with remedies of all schools of medicine.

7. Liquors of any kind must be prohibited; those addicted to their use or handling the same, are unfavorable subjects.

8. Food must be plain and wholesome and that selected which will agree with the patient.

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### DIETARY DIRECTIONS FOR CANCER PATIENTS

The New York Skin and Cancer Hospital, have prepared the following directions for cancer patients, which will prove helpful to both patients and doctors.

1. Cancer is a serious disease which should receive constant medical care from the time it is first suspected.

2. "Cancer Specialists," who advertise, should be avoided.

3. Cancer is not contagious, and there is no danger of communicating the disease to others.

4. Cancer is not a disgraceful disease, and there is no reason for being ashamed of it or hiding it.

5. As soon as cancer is suspected, whether there be a lump, or sore, or other symptoms, it should be at once cared for by a competent medical man, as the earlier it is treated the more prospect there is of its being cured.

6. Anything suspected to be cancer should not be handled or squeezed, but should be kept from all irritation, as all this spreads the trouble and renders the cure more difficult.

7. When it is decided that a surgical operation is necessary this should be done completely at the earliest possible moment: delay is dangerous.

8. The proper medical treatment of cancer should never be neglected, both at the very beginning, and also after an operation has been performed.

9. It is not necessary to operate on every cancer, X-ray and radium are often of value, and the disease may disappear and remain absent under proper dietetic and medical treatment.

10. This treatment consists in an absolutely vegetarian diet, with continuous proper medication, for a long time.

11. To get favorable results this treatment should be kept up strictly until discontinued by the physician.

To assist in carrying out a strictly vegetarian diet, a diet list for cancer is here given, which should be closely adhered to. Coffee, chocolate and cocoa, as also alcoholic drinks, even beer, are harmful and must be avoided. The rules given at the end are also to be strictly observed.

Diet for Cancer

FIRST DAY

Breakfast	Dinner
4 ounces Rice	5 ounces Vegetable soup
3 " Corn bread	3 " Baked potatoes
1 1/4 " Butter	3 " Stewed celery
1/2 " Sugar	1 " Graham bread
Hot water	1 1/4 " Butter
	1 Fresh apple
Supper	
4 ounces Rolled oats	
2 " White bread	
1 1/4 " Butter	
4 " Stewed prunes	
1/4 " Sugar	
Very weak tea	

SECOND DAY

Breakfast	Dinner
Orange	5 ounces Pea soup
4 ounces Hominy	3 " Macaroni
2 " Graham toast	3 " String beans
1 1/4 " Butter	3 " Carrots
1/2 " Sugar	2 " Bread
Postum	1 1/4 " Butter
	Dates
Supper	
4 ounces Cream of Wheat	
2 " Graham toast	
1 1/4 " Baked apple	
2 " Crackers	
1 1/4 " Butter	
1/4 " Sugar	
Very weak tea	

THIRD DAY

Breakfast	Dinner
Banana	5 ounces Corn soup
4 ounces Pettijohn	3 " Baked potatoes
2 " White bread	3 " Spinach
1 1/4 " Butter	3 " Boiled onions
1/2 " Sugar	2 " Bread
Hot water	1 1/4 " Butter
	Raisins

**Supper**

4 ounces Farina  
 4 " Stewed figs  
 2 " Graham crackers  
 1½ " Butter  
 ¼ " Sugar  
 Very weak tea

**FOURTH DAY****Breakfast**

Raw apple  
 4 ounces Cornmeal mush  
 2 " Graham bread  
 1¼ " Butter  
 ½ " Sugar  
 Postum

**Dinner**

5 ounces Vegetable soup  
 4 " Baked beans  
 3 " Cauliflower  
 3 " Asparagus  
 2 " Bread  
 ¼ " Butter  
 Orange

**Supper**

4 ounces Rice  
 4 " Stewed prunes  
 2 " Graham crackers  
 1¼ " Butter  
 ¼ " Sugar  
 Very weak tea

**FIFTH DAY****Breakfast**

Orange  
 4 ounces Cracked wheat  
 3 " Corn muffins  
 1¼ " Butter  
 ½ " Sugar  
 Hot water

**Dinner**

5 ounces Sago soup  
 4 " Spaghetti  
 3 " Lima beans  
 3 " Boiled onions  
 1¼ " Butter  
 Dates

**Supper**

4 ounces Cream of wheat  
 Sliced orange  
 2 ounces Oatmeal crackers  
 1¼ " Butter  
 ¼ " Sugar  
 Very weak tea

**SIXTH DAY****Breakfast**

4 ounces Samp  
 2 " Graham toast  
 1  $\frac{1}{4}$  " Butter  
 $\frac{1}{2}$  " Sugar  
 Postum

**Dinner**

5 ounces Celery soup  
 4 " Baked potatoes  
 3 " Carrots  
 3 " Spinach  
 1  $\frac{1}{4}$  " Butter  
 2 " Bread  
 Figs

**Supper**

4 ounces Wheatena  
 4 " Stewed figs  
 2 " Uneeda biscuit  
 1  $\frac{1}{4}$  " Butter  
 $\frac{1}{4}$  " Sugar  
 Very weak tea

Repeat this bill of fare on successive days.

Some interchange of the different articles may be made, to suit the appetite or convenience of patients; but in the main this bill of fare should be followed.

Bread at least 24 hours old may be taken as desired.

A little old cheese may be grated on the macaroni and spaghetti, but not cooked with it.

One boiled or poached egg may be taken for breakfast every other day, and very fat bacon on the alternate days, unless otherwise directed by the physician.

It is desirable to eat the skin of potatoes.

Each and every meal should be eaten very slowly, for half an hour, with long chewing.

One tumbler of water is to be taken with each meal, but not when food is in the mouth; also a tumbler full of hot water, one hour before breakfast and supper.

No milk is to be taken unless specially ordered.

The cereals are to be boiled with water, three or four hours, and may be cooked in the afternoon and heated in the morning, adding more water. Rice, farina, and cream of wheat require only an hour. Chopped dates, figs, raisins, or currants may be added to cereals when desired.

All the cereals are to be served very hot, on hot plates, and eaten with butter and salt to taste (not milk and sugar). They are to be eaten very slowly, with a fork, and very well chewed.

The crackers with supper may be varied to suit the taste; they should be eaten dry, with butter, and chewed very thoroughly.

Nothing should be taken between meals, unless especially directed, and the life should be as simple and healthful as possible, with early and long bed hours.

## EDITORIAL.

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Books for review, exchanges and contributions—the latter to be contributed to the GAZETTE only and preferably to be typewritten—personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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### FIGHTING, NOT BULLETS, BUT A WORSE ENEMY: CANCER

In every campaign against disease wherein medical science has enlisted its full quota of brain and brawn with unremitting energy, disease has capitulated. True, in some instances the surrender has been but partial, but the capture even of the outposts means ultimate victory. Was it cholera, the once incurable and unconquerable, which stalked boastfully and unabashed over Europe? Where are its boastings now? Was it yellow fever which ever held the South in trembling fear lest it show its yellow fangs with the least provocation and collect its deadly toll without let or hindrance? Its taking off has been so complete that it has not left even a whelp of evil to claim its birthright. Was it smallpox, Berri Berri, Bubonic plague, or even tuberculosis? Their rapid retreat and ultimate surrender are visible from the reviewing stand of the present generation.

But what of cancer? As the Jewish maidens sung "Saul hath slain his thousands, but David his tens of thousands!" So might the death hags sing, "War hath slain her thousands, but cancer her tens of thousands!" But Medical Science is now fully aroused to the threatening danger and is massing her forces in true military form to crush this enemy of the human race. Like the dragon in the fairy tales, cancer is not satisfied with slaying the useless and the decrepit, it must take for its victims the fairest of the land.

It is axiomatic that as man is *born* free of disease so he should grow up, live his allotted time and die, not of disease, but of "fullness of years." Disease is artificial, abnormal; hence science should be able to find the cause, remedy, and prevention. Medical science has unravelled the riddle of many other apparently incurable diseases and abolished them, so it can abolish cancer.

The chief reason why cancer has worked its deadly havoc with alarming increase all these years is because the medical profession and the public have not organized themselves into a united army and with the weapons already at hand taken a determined stand against further onslaught from this enemy. The few scattered indefatigable workers in the search for a remedy from this scourge while not successful in providing us with a weapon which with one stroke we shall destroy it, yet they have given us sufficient power to stay its further progress. What is now of prime importance is that the entire medical profession shall enlist its efforts to the end that cancer shall go the way of all the other vanquished plagues. To accomplish this many lines of endeavor are necessary.

First, there should be more endowed laboratories and hospitals with an equipment sufficient to study the etiology of the disease as never before studied. The institutions already provided for that purpose are too few; there should be a greater army of workers and they should be more widely distributed.

Second, there is urgent need of a widespread campaign of education in the ranks of the profession on the one subject of the early recognition of cancer. There are yet in the land hundreds of the old time doctors who refuse to say "Cancer" in a given case until the odor from the sloughing mass would bring the blush of shame to a fertilizer factory, or until the "cachexia" has so stamped the countenance of the victim that an Egyptian mummy would in comparison be regarded as a June debutante. When that part of the profession, small as it is, can be made to understand that cancer like the "rattler" not only gives a timely warning of its bite, but even has its pre-cancerous stage, which a little diligent attention to symptoms will enable him to readily recognize, then we have eliminated one source of danger.

It is rare that cancer even appears in any organ without a fairly definite prodromal history. If it be cancer of the stomach there is usually the long period of "indigestion," pain, loss of weight, periodic improvement; but an ever steady downward slump. This is the stage in which the "cancer" should be cured long before it becomes cancer. If medicine, diet, rest, and the most painstaking treatment fail, then surgery should be sought. Certain it is the patient should not be allowed to "drift." If it is cancer of the liver there is generally the prodrome of gall bladder irritation, biliary colic, intestinal indigestion, faulty metabolism, pain, pain, very steady right upper quadrant pain.

Pathologists agree that rarely does the gall bladder become cancerous without first becoming inflamed, either from the

presence of calculi, or infected bile. The moral is: *cure the cholecystitis* and there will be no gall bladder cancer.

If it is cancer of the rectum, there is invariably the old story of hemorrhoids, blood, painful defecation, pain and soreness months or years before cancer really gives its dreadful "rattle." Be it cancer of the cervix or uterus there are those ever present heralds which months before sound the note of warning and which are so well known to every gynecologist; the watery flow, an occasional show of blood from the vagina, a little discomfort in the pelvis, all of which generally appear after the menopause and are all too frequently regarded lightly by the indifferent medical attendant. Here again the old time doctor with his cold storage information of thirty years ago, fails to see anything ominous in such symptoms. He generally hears the cancer "rattle" a day or two before the patient hears Gabriel's horn.

With this campaign of education for the physician should go the accepted fact that up to the present the chance of a cancer cure after cancer has actually appeared, lies only in an early radical removal of the growth. The medical man, the internist, has the best chance to cure before it becomes cancer, and has also the greater responsibility resting upon him. We may know something better soon, but until we do, it becomes our duty to give the victim of cancer the best known chance of a cure.

Lastly comes the urgent necessity for a widespread knowledge of this disease amongst the public. It was feared that when the profession advocated educating the public concerning the early symptoms of tuberculosis that such a knowledge would tend to frighten people into having the disease. Such a fear has not materialized but rather the contrary, a knowledge of the disease on the part of the laity is a mighty factor in stamping out the curse. The lament of nearly every doctor who is consulted by a victim of cancer is: "Why did you not come earlier? Your chances of cure would have been reasonably certain." And now generally comes the one answer: "How should I know I was getting a cancer?" True, how should he know, who is there to tell him? In this, we the profession, are our brothers' keepers and we can only tell him by a widespread knowledge concerning this disease, such knowledge to be imparted through the press, by lectures, by literature, and by word of mouth.

The battle against cancer is now fully on, the outcome is not uncertain if earnestness be the watch-word.



HOPITAL MILITAIRE AUXILIAIRE, 307  
29 BOULEVARD VICTOR HUGO, NEUILLY, PARIS

**NEULLY HOSPITAL**

The Editor of the New England Medical Gazette.

Dear Dr. de Witt Wilcox:

I have to report continuous activity on the part of the Neuilly Hospital. One hundred and thirty-five patients have been received since its opening, and only one death has occurred up to date. While the majority of cases hitherto have not been received in the acute stage, a fair proportion have required un-remitting attention from the Medical Staff, with this fortunate result. Many of the patients have tubercle as a main or complicating factor, doubtless awakened by the conditions of life in the trenches. But none of them are allowed to stay in Hospital a day longer than is requisite to restore their fighting powers. The wastage of men is too great to allow any who can hold a rifle to be spared from the fighting lines.

The cases are all taken and the clinical course and medical treatment recorded with the greatest care. The case books used are those specially drawn up by the International Homœopathic Council. Thus one scheme of detail is adhered to, so that analysis may be readily made when after the conclusion of the War the results are published. This indeed is one of the main objects of the conduct of the Hospital—the preparation of a verifiable body of statistics as irrefragable proof of the values of Homœopathy to the State no less in time of War than in civil life. Hitherto Homœopathy had no such valuable literature at its disposal.

Steps are being taken to bring the Hospital, by way of auxiliary depot, and by utilizing the valuable influence of our French colleagues in and near Paris to ensure as large a proportion of acute cases for the Hospital service as is possible. Hitherto we have had no reason to complain of the good will of the military authorities. We have secured our share and more than our share of the sick soldiers entering Paris. At this particular juncture, the Government is turning to account the Provincial French Hospitals for the reception of sick and wounded, so as to clear for the enormous rush that is anticipated in the immediate future, when, according to Earl Kitchener, the war will begin. And Paris stands within easy distance of the focus of the great struggle.

In Great Britain, the interest in the Neuilly Hospital is unabated. The latest active movement is in Liverpool, where the Homœopathic Hospital authorities at the initiative of Doctor Hawkes and Doctor Cash Reed, are appealing to all the supporters of Homœopathy in the North to rally and finance a "Liverpool Ward." The other Homœopathic Hospital centres have done well. Bristol, through Doctor Hervey Bodman, has subscribed nearly £600. From Southport, through Doctor Cronin-Lowe, and where a Homœopathic Hospital does excellent work, nearly £400 has been contributed. At Tunbridge Wells, where an important extension of the Homœopathic Hospital there is being carried out, £100 has been collected. At Bromley, at the Annual Meeting of the supporters of the Cottage Hospital there, nearly £200 has been subscribed. In all, in Great Britain, some £4,500 has been obtained up to date in promises and payments.

But we want more—much more—to do Homœopathy justice, and to ensure that it takes a fitting part in the healing of the nations. From the State Society of Massachusetts, £100 has been remitted. Dr. Sutherland has personally contributed £20. Dr. Horace Packard, ever enthusiastic in the progress of Homœopathy, has also with the warmest encouragement subscribed £20. And Dr. James W. Ward, hero of many contests in which Homœopathy has conquered, has remitted £10 as his personal contribution, with his cordial good wishes. Dr. A. R. Griffith of Montreal, has obtained as a subscription from the Montreal Homœopathic Association £10, which was transmitted by him in a letter breathing ardent enthusiasm for the cause.

It is money that makes the wheels go round. Now is the day and now is the hour.

With my kindest regards to my American colleagues,

Ever yours faithfully,

GEORGE BURFORD.

## SOCIETIES

## Alumni Association of Boston University School of Medicine

The Annual Banquet of the Alumni Association of Boston University School of Medicine will take place at Young's Hotel, Tuesday evening, June 1st, 1915, at 7 P.M.

The annual business meeting will be held at 6.30 P.M.

The speakers for the evening are to be Pres. Murlin and prominent members of the Alumni Association.

The Rev. Gabriel R. Maguire, F. R. G. S., will give his famous lecture entitled "With an Irishman through the Jungles of Africa."

The Bostonia Orchestra will furnish music.

Frederick L. Emerson, *Pres.*

Harold L. Babcock, *Sec'y.*

Sagamore Beach

The above circular giving part of the programme was sent out to the Alumni of Boston University School of Medicine. In addition, Pres. F. L. Emerson gave a short address, Pres. Hopkins of the graduating class (which was entertained by the Alumni Association) spoke for his fellows, Dean Sutherland outlined various changes and improvements in the curriculum, Dr. Briggs reported on the work of the Finance Committee stating that the year's efforts were toward getting new students instead of money.

Pres. Murlin was present for a short while, but was called away before he was called upon to speak.

Dr. Piper presented the Alumni Association with \$100 in behalf of the class of 1890 toward a permanent endowment fund.

The lecture by Mr. Maguire was, I think, very well received. The attendance was the largest for several years.

The new officers are:

*President*, H. G. Batchelder

*1st Vice-President*, A. W. Horr

*2nd Vice-President*, E. R. Johnson

*Secretary*, H. L. Babcock

*Treasurer*, Howard Moore

*Auditor*, Conrad Smith

*Advisory Committee* (5 years) W. H. Flanders

*Directors*: W.T. Lee, F. L. Emerson, J. A. Rockwell, A. G. Howard, Marion Coon.

The Convocation ballot: *Vice-President*, Conrad Smith. *Visiting Committee*, S. H. Calderwood.

## Homœopathic Medical Society of the County of Kings

The 484th regular meeting of the Homœopathic Medical Society of the County of Kings was held at the Medical Library Building, Brooklyn, on April 27, Dr. Robert F. Walmsley, president, in the chair. The Homœopathic Medical Society of the County of New York were the guests of the evening and read four very interesting papers, the session ending with a collation.

Dr. Edward P. Swift, President of the New York Society was invited to preside and introduced the chairmen of the bureaux. Dr. Bert B. Clark, chairman of the Bureau of Clinical Medicine, presented three papers, one paper, by Dr. George F. Laidlaw, on "Some Fallacies of Nephritis," was not read owing to the illness of Dr. Laidlaw. Dr. William H. Van den Burg, read an interesting paper on "Some Nutritional Problems," an exposition of recent discoveries in nutritional elements of food, and a plea for less refined and more nourishing wheat and other cereals. This paper was discussed by Dr. Lloyd, Dr. Harrington, Dr. Dieffenbach, Dr. Upham, Dr. Hale, and Dr. W. H. Pierson. Dr. E. H. Rudderow, of New York, read a paper entitled "Cardio-Vascular Problems," a study of the effects of medicinal treatment to improve the heart action in cases of indigestion and other reflex conditions. This paper was discussed by Dr. Upham, Dr. A. L. Cardozo, who spoke of changes in the position of the heart disclosed by the fluoroscope, Dr. W. L. Love, Dr. Bert B. Clark. Under the Bureau of Surgery

and Gynæcology, Dr. E. Welles Kellogg, chairman, Dr. Gove S. Harrington, of New York read a paper on "The Treatment of Fractures," illustrated by a series of lantern slides. The paper was on the use of the Lane fixation plates in displaced fragments, and the nailing of the displaced head in fractures of the femur. This paper was discussed by Dr. J. H. Fobes, Dr. George H. Iler, who spoke of the statistics at Cumberland Street Hospital where with a list of perhaps a thousand cases of fracture it had not been found necessary to make an open wound, the cases all being treated by the closed method. The most important principle in the treatment being that perfect alignment is not always necessary for a good functional result. Dr. O. S. Ritch said that with the modern methods developed by the use of the X-ray the city surgeon was in a better position to treat a case than the country surgeon. Dr. Harrington in closing the discussion said that the cases shown were merely those in which it had been found necessary to use the plates to get a good result, and that many cases were treated at the Metropolitan Hospital by the closed method. He spoke of one malpractice suit in which the surgeon was defeated and compelled to pay an \$900 verdict because he had not taken the trouble to have an X-ray picture made. Under the Bureau of the Eye, Ear, Nose, and Throat, Dr. John Strother Gaines, chairman, Dr. L. Evans Hetrick, of New York read a paper on Mastoiditis. This paper was discussed by Dr. Warner and Dr. Schenck. Dr. Hotrick, in closing said that many physicians did not use the proper technique in examining the mastoid externally. He stood at the back of the patient and palpated both mastoids at the same time, the diseased side being less easily moved. The finger should pass over the tissues in a sliding manner, and the affected side would slide less easily; the finger would also notice the difference in temperature between the well side and the affected side.

The Brooklyn Society is scheduled to visit the New York Society on May 13, when papers will be read by Dr. O. S. Ritch, Dr. Roy Upham, and Dr. R. I. Lloyd. L. D. Broughton, *Secretary*.

The Homœopathic Medical Society of the County of Kings held its 485th regular meeting May 25, 1915, at the Medical Library Building, Brooklyn. Four very interesting papers were read under the bureaus of materia medica and eye, ear, nose and throat. Dr. Henry B. Minton read an analysis of the clinical verifications of mercurius corrosivus, which was discussed by Dr. Lloyd. Dr. Albert Comstock read the notes of a case of syphilis treated with salvarsan and later by autotherapy on Dr. Duncan's method, which was discussed by Dr. O. S. Ritch, Dr. James B. Given, and Dr. Lloyd. Dr. R. I. Lloyd read a paper on the clinical aspects of phlyctenular conjunctivitis, which was discussed by Dr. H. D. Schenck and Dr. McCormack. Dr. Charles E. Paine read a paper entitled: "Submucous Resection of the Nasal Cartilage," which was discussed by Dr. A. J. Stewart, Dr. Lloyd, Dr. Nathaniel Robinson. L. D. Broughton, *Secretary*.

#### Boston District, Massachusetts Homœopathic Society

*May 6th, 1915.* Meeting called to order by President F. W. Colburn at 8.10 in the amphitheatre of the Evans Memorial. It was voted to omit the June meeting. Dr. F. W. Durgin was elected to membership.

A case of *Uncinaria* was reported by Dr. O. R. Chadwell. The patient, a Syrian, entered the Massachusetts Homœopathic Hospital for acute lobar pneumonia. Owing to the increasing eosinophilia following the fall of temperature, the stools were examined, which showed the ova of hook worm, —(*uncinaria europalis*)—and the taenia solium. The patient was shown, together with microscopic exhibits of the ova and living worms. The case was discussed by Drs. Rockwell and Watters.

A paper on "Hæmorrhagic Disease of the Newborn" was presented by Dr. Anton Fried, and discussed by Drs. Loring and Watters.

A paper by Dr. E. P. Ruggles on "Two Problems in Obstetrics" dealt with a recovery from lobar pneumonia during pregnancy with a living foetus, and the postpartum findings in a case of Contractile Ring Dystocia. The paper was discussed by Drs. N. M. Wood, C. W. Bush, E. W. Smith, A. H. Powers, F. W. Halsey and J. A. Rockwell.

**BOOK REVIEWS**

**Practice of Medicine.** By Walter Sands Mills, A.B., M.D. Professor of Medicine, New York Homœopathic Medical College and Flower Hospital; Physician to the Metropolitan Hospital, and to the Tuberculosis Infirmary, Department of Public Charities. Philadelphia: Boericke and Tafel, 1915. Pages 705.

A new book on Practice by a homœopathist is a rare thing. The reasons are not far to seek. Practice in accordance with the law of Similars demands an extensive and absolutely reliable *Materia Medica*, and the study of drug Pathogenesis has not been developed or pursued very assiduously in recent years. Naturally there are decided limits to human knowledge, and it may be that there remains only a little to be added to the knowledge already possessed concerning the influence drugs are capable of exerting on the human body. Doubtless it will be impossible to unceasingly add to our knowledge of the pathogenic power of drugs which have been well proven and widely used for over a century. Under such circumstances all that can be done is to prove and reprove, analyze and compare our symptom-lists until our knowledge of drug action is wholly exact, reliable and trustworthy. Therefore since we rely in our pharmaco-therapy upon our knowledge of drug pathogenesis, and since this knowledge has not been materially expanded of late, and in the nature of things cannot be much more expanded except as to details, it follows that homœopathic literature in the way of books and comprehensive treatises is not likely to increase at a rapid rate. It is easily possible, however, to add very materially to our ability to use much more effectively than we can at present the drugs already well proven. It is along this line that there is room for much progress and one who realizes our pharmaco-therapeutic deficiencies cannot help eagerly taking up a new book by a homœopathic teacher with the expectation and strong hope of finding some new uses for old and familiar pharmaceutical friends. In the book before us the homœopathic veteran may not find as many "new uses" for familiar drugs as he would like, but if he looks carefully, he is bound to find some. It is perhaps particularly the medical student and the "inquirer" into homœopathic therapeutics who will find the golden nuggets scattered throughout the book.

The work consists of fourteen sections devoted to a consideration of the following topics: Infectious Diseases; Diseases Common to Man and Animals; Worms and Intestinal Parasites; Constitutional Diseases; Poisonings and Intoxications; Diseases of the Blood; Diseases of the Heart and Blood Vessels; Diseases of the Respiratory Tract; Diseases of the Digestive Tract; Diseases of the Kidneys and Bladder; Skin Diseases; Diseases of the Ductless Glands; Mental Diseases and Psychoses, and Diseases of the Nervous System.

In the entire book 375 topics are discussed, occupying a total of 656 pages. Naturally some subjects get scanty treatment, but in reading carefully page after page, it is found that the author has a remarkable power of condensing things. He is also very systematic and has the gift of suggesting much in few words. Very frequent references to personal experiences are found and many cases are cited. The author has aimed "to produce a book that omitted none of the essentials of practice, and yet one that was concise in statement," and to give in the way of homœopathic treatment "efficient guides to the reader"; and he has selected drugs for recommendation which have served him in clinical work or appealed strongly to his judgment. In these things he has been successful.

The book is more of an epitome of practice than a lengthy treatise on medicine and as such it will be appreciated by the student.

**The Future of the World**

Dr. C. I. Scofield, editor of the famous Scofield Reference Bible has written a series of six articles under the title of "Six Simple Studies in Prophecy" or *History Written in Advance*." About the last of June these articles will begin to appear in *The Sunday School Times*, an every-week religious paper published at Philadelphia, Pa. A three weeks' free trial of

the paper, including one or more of these articles, may be had upon request, as long as the supply lasts, if you mention the article wanted.

**Surgery of the Blood Vessels**, by J. Shelton Horsley, M.D., F.A.C.S. Surgeon-in-charge of St. Elizabeth's Hospital, Richmond, Va.; A Founder and Fellow of the American College of Surgeons; Ex-President of the Richmond Academy of Medicine and Surgery; Member of Southern Surgical and Gynecological Association, etc. Illustrated. Price, \$4.00. St. Louis, C. V. Mosby Company, 1915.

The author has presented in this volume some very valuable and timely information relative to a class of surgery which is of deep interest to every surgeon. Constructive surgery is rebuilding or replacing those parts which have been destroyed by accident or disease. It is comparatively easy to remove diseased tissue, but it requires a further nicety of manipulative skill to reconstruct, either out of the material at hand, or to supply new tissues which are past mending. Blood vessel surgery is constructive surgery in its ultra sense. Its success means almost a wizard's skill. With surgery of the blood vessels perfected, and with nerve suturing near perfection, there is no reason why a new leg cannot be grafted upon the stump of an amputated leg and made serviceable.

Dr. Horsley has written a valuable book which one cannot read without being impressed with the practical helpfulness of the publication. The paper and work are a credit to the craftsmanship of the printer and binder.

**Shall I Drink?** By Joseph Henry Crooker, Author of "The Church of Today, The Church of Tomorrow, The Supremacy of Jesus," etc., etc. The Pilgrim Press, Boston, New York, Chicago, 1914.

The author of this volume has taken up the alcohol question from an entirely new angle. He has endeavored, and it would appear succeeded, in answering the question in a most sane manner, *Shall I drink?* The unanswerable reasons he presents for not drinking show that he is not a fanatic, not a temperance exhorter, but a common sense, every day sort of man who wants to get the most out of life by putting the most into it. His conclusion is that he personally cannot drink and reach the full measure of healthfulness, happiness, usefulness; but those personal reasons are so broad and sane that we fail to see why they should not apply to every man. He has made an exhaustive study of the liquor question and speaks with a full understanding of the subject.

In this day of threatened prohibition it becomes every physician to inform himself widely and thoroughly upon the question of alcohol consumption. He cannot longer be a "fence straddler"; he must take sides with either the wets or the dries.

### B. U. SCHOOL OF MEDICINE FACULTY RECEPTION TO THE CLASS OF 1915

The annual reception of the Faculty of Boston University School of Medicine to the graduating class was held on the evening of May 31. The usual program was followed out, with formal exercises in the lecture hall of the Evans Memorial, followed by a reception in the Medical School to the graduates and their friends by a large number of the Faculty. At the close of the reception a light collation was served in the Biological Laboratory, and the evening ended with dancing in the Physiological Laboratory, with music by Muscanto's Orchestra.

The formal program was as follows:

*Class History*, by Clyde Bartlett, Natick, Mass.

*Class Prophecy*, by Marion Elizabeth Spaulding, A.B., Ch.B., North Scituate, Mass.

*Valedictory*, by Cecil Whitehouse Clark, A.B., Ch.B., Sidney, Maine.

*Music*

*Address for the Faculty*, by Prof. Frank C. Richardson, M.D.

The program was of unusual interest and the addresses of a high order. Dr. Richardson's Address for the Faculty was exceptionally fine and will be printed in a later issue of the *Gazette*, as will the Valedictory.

One feature of the evening which added greatly to its success was the presentation of a remarkably fine photograph, life size and artistically framed, of Dean Sutherland, given to the School by the graduating class. The picture—an enlargement from his most recent photograph—and the gift were alike a surprise to Dr. Sutherland, the whole thing having been successfully planned without his knowledge. The presentation was made by the class prophet, Miss Spaulding, and in a few well chosen words she paid a worthy tribute to Dean Sutherland and expressed for the class their affection and admiration for him. The picture will be hung in the School office, with that of former Dean I. T. Talbot, whom Dr. Sutherland succeeded.

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### OBITUARY

Dr. Edith Phelps Boffin, a graduate of Boston University School of Medicine of the class of 1901 died on Friday, May 28th at the Maryland State Sanatorium. For over a year she had been suffering from laryngeal tuberculosis and although she went almost immediately with her husband to live on a farm at Darlington, Maryland, and about two months ago went to the Sanatorium she failed to gain. She was buried in her native town, Milford, Delaware, last Tuesday. She is survived by her husband Dr. J. Arnold Boffin to whom she was married in October, 1913.

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### AN APPEAL

By the Council on Medical Education of the A. I. H.

The Council on Medical Education frequently has interesting and important data and items about Homœopathy that are worthy of a wide dissemination among the laity.

We desire especially to secure the names of newspaper owners, editors and writers who employ homœopathic physicians in their families.

Our physicians can greatly aid the work of the Council in sending the Secretary this information, and incidentally help themselves in bringing to the people of their towns information as to what the Homœopathic School is doing, its progress, its institutions and its successes.

The Council has already the names of several hundred newspapers whose editors and owners are homœopathic patrons, and who are anxious and willing to print items of interest concerning our School of Medicine. Kindly help us to enlarge our mailing list.

W. A. Dewey, *Secretary*, Ann Arbor, Michigan.

### EXPOSITION TO ENTERTAIN ECLECTIC AND TWENTY OTHER MEDICAL ASSOCIATIONS

Under the auspices of the Panama-Pacific Exposition the California State and National Eclectic Medical Associations will hold their annual session at San Francisco June 16 to 19. Representatives from every State in the Union will participate.

An idea of the aims and ideals of this organization may be obtained from the following excerpt from a paper by Dr. W. N. Mundy, corresponding secretary of the National body.

"Our members are not sectarians in medicine by any means, but believe in a safe and sane method of medication. The school arose as a reform measure against the old time methods in vogue seventy-five or more years ago. Arising as a rebuke to those harsh and often inhuman methods, it gained adherents until it became known as a separate school of medicine.

"The members of this school are not medical outlaws, but fulfill the medical practice Acts of the several states and take the same examinations before the State Examining Boards as do those of Johns Hopkins, Harvard or Yale. Unfortunately they come under the ban of the majority, especially under the ban of the Carnegie Foundation, who measure all educational institutions by the pile of brick and stone and dollars it possesses, rather than by its intrinsic worth."

Among the other medical associations meeting near this date are the Eclectic Medical Society of the State of California, June 14 to 17; California State Homœopathic Medical Society, June 16 to 19. Meeting also during the same period are five nurses' associations and fifteen other great medical conventions, mostly national.

The Exposition is a laboratory and in the medical exhibits the delegate will find thousands of things which will make of his visit a thing of far more value than any course he might take in a medical college; and he will in a few days acquire more information through the study and observation of this collection of all the newest things of science than could be obtained in years of research.

It is a wonderful Exposition. Probably the last the world will see for many, many years, considering the conditions now obtaining among the nations of the earth. Certainly it is the most beautiful conception man has yet put into being.

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### AUTOMOBILE OWNERS RECEIVE GOOD NEWS

The greatest boon to the automobile owners has just been given them recently in the form of a tire constructed of double the thickness of such tires as Diamond, Goodyear, Firestone, and other standard makes. This added thickness in wearing surface makes the tires the best on the market today for real service as they are punctureproof and withstand great wear and hard service. Notwithstanding the many added features of these tires they are being sold now as an introductory offer at a price about 40% lower than the regular price of standard tires. These tires bear a 7000 mile guarantee which is also double that of the regular made standard goods. These tires are being sold direct to the consumer by the *Double Service Tire and Rubber Co.* of Akron, Ohio.

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### SARATOGA SPRINGS AS A SUBSTITUTE FOR THE EUROPEAN SPAS

The great therapeutic value of the waters of Saratoga Springs has become more generally recognized since the Springs have been under the administration and regulation of the State Government, who has equipped the Spa with all the latest appliances to render Saratoga one of the finest of the world's health resorts.

And now that the European Spas, such as Wiesbaden, Marienbad, Kissingen, Nauheim and others are not easily accessible, physicians will find an excellent substitute for their patients among the varied waters of Saratoga

Springs, where the Nauheim bath system and many others are carried out with a high degree of efficiency.

Correspondence concerning the waters and the facilities is cordially invited by the Superintending Director for the Commissioners of the State Reservation at Saratoga Springs, N. Y.

#### NOTICE TO PHYSICIANS

Mental or chronic patients may be sent to a quiet place with homelike surroundings. Male and female nurses in attendance. Rooms ready for inspection.

In the same house is a large room, suitable for a doctor's office, for rental. No physician at present on the same street.

Address Miss E. M. Custer, 74 St. Stephen St., Boston.

#### SUMMER COTTAGE FOR RENT FOR SEASON OF 1915

An attractive summer cottage in Southern New Hampshire to be let for the season. Accommodates six persons. Five comfortably furnished rooms, with one extra unfinished room. Excellent well water. Use of double tennis court. Vegetables, milk and eggs from near-by farm. Trout fishing. Two hours from Boston on Worcester & Nashua R.R. One acre of land; some garden produce from the place. One mile from station. Stage to Dover (five miles) passes door. High location. One hundred dollars for the season. Address "E. S. J.," care of *New England Medical Gazette*, 80 East Concord St., Boston.

#### A SIMPLE TRAP FOR THE HOUSE-FLY

A maggot trap which will practically prevent the breeding of the house-fly is described in a new bulletin of the U. S. Department of Agriculture, No. 200, "A Maggot Trap in Practical Use; An Experiment in House-Fly Control." The investigators who carried on this experiment at the Maryland Agricultural College declare that during August and September at least 98 per cent of the larvæ breeding in the manure were destroyed, and although the trap was not so efficient when the weather became colder, even then it greatly reduced the number of flies.

The principle of the trap is simple, it is easy to construct, and the expense is said to be probably less in the long run than the investment which many farmers now make in screens for their dwellings, and sprays and fly-nets for their live stock. In its roughest outlines the trap consists of a concrete basin with a latticed wooden platform erected upon it to hold the manure. The basin is connected by a drain pipe with a small concrete cistern. The bottom of the basin is filled with water into which the maggots breeding in the manure drop, as they are about to turn in the pupa or chrysalis stage, and are drowned. At frequent intervals the water is run off into the cistern and is then pumped back on the manure pile. In this way all the liquid manure is saved.

The successful operation of this trap rests upon several facts connected with the habits of the house-fly which have been thoroughly established by observation. The adult fly lays its eggs in fresh manure. They remain until the larvæ stage is almost over and the insects are about to enter the pupa or chrysalis stage. At this time a pronounced tendency to migrate is evident. In consequence if the manure is placed upon a platform with a latticework bottom the larvæ, while migrating, will fall through these openings into the water in the basin below. In the case of the experiments at the Maryland Agricultural College a careful count showed that between July 25 and October 1 about 112,000 larvæ were killed in this way. This, however, does not include the number that were picked up from the basin by sparrows or poultry. Altogether it is estimated that during the warm weather the efficiency of the trap was probably 99 per cent. Later, when the temperature was lower, the trap's success was not so marked. This was accounted for by the fact that when the air is much colder than the manure heap the larvæ will not attempt to leave the heap and therefore will not fall into the basin.

## HOW DID YOU DIE?

Did you tackle that trouble that came your way  
 With a resolute heart and cheerful?  
 Or hide your face from the light of day  
 With a craven soul and fearful?  
 Oh, a trouble's a ton, or a trouble's an ounce,  
 Or a trouble is what you make it,  
 And it isn't the fact that you're hurt that counts,  
 But only — how did you take it?

You are beaten to earth? Well well, what's that?  
 Come up, with smiling face.  
 It's nothing against you to fall down flat,  
 But to lie there — that's disgrace.  
 The harder you're thrown, why the higher you bounce,  
 Be proud of your blackened eye!  
 It isn't the fact that you're licked that counts,  
 It's how did you fight — and why?

And though you be done to death, what then?  
 If you battled the best you could,  
 If you played your part in the world of men,  
 Why, the Critic will call it good.  
 Death comes with a crawl, or comes with a pounce,  
 And whether he's slow or spry,  
 It isn't the fact that you're dead that counts,  
 But only — how did you die?

— Anon.

## GLYCO-THYMOLINE IN TONSILITIS

A local remedy must fill two requirements—It must be a detergent anti-septic and produce a degree of permanency of effect.

Glyco-Thymoline as a gargle, or used as an atomizer, produces excellent results. It rapidly relieves the dry, congested condition of the mucous membrane by its exosmotic action and its anodyne effect is immediate and lasting.

Glyco-Thymoline is harmless, and if any is swallowed will produce a beneficial effect by breaking up any mucous plugs that may have gained access to the stomach.

Had Taken It.—*Railway King*—"What do you think I need, doctor, to set me up again?" *Doctor*—"Well, I think a little iron will help you." *Railway King*—"Good. I gobbled up a whole railroad system last week."—*New York Truth*.

## PERSONAL AND GENERAL ITEMS

Dr. Elizabeth Wiltshire Wright, class of 1909 B.U.S.M., is located at 620 West 116th St., New York City.

The *Gazette* has recently learned of the death of Dr. Charles S. Sargent, which occurred on September 26, 1914. Dr. Sargent was a graduate of Boston University School of Medicine, of the class of 1879, and was for many years in practice in Worcester, Massachusetts.

Dr. Ella E. Severance, class of 1901 B.U.S.M., has removed to 47 Cooper St., Camden, N. J.

Dr. Clyde Bartlett, of the 1915 graduating class of B.U.S.M., has opened an office in his home town, Natick, at 415 North Main St.

Dr. Mattibelle Boger, B.U.S.M. 1915, will be associated with her father, Dr. C. M. Boger, of Parkersburg, West Virginia.

Dr. Elizabeth G. Bradt, graduating class of 1915 B.U.S.M., has been appointed to internship in Rochester, New York, Homeopathic Hospital, service to begin July 1.

Dr. Earl B. Maxwell, of the same class, expects to locate in Ohio.

Dr. Arthur A. Struthers, 1915 B.U.S.M., began a year's service in Trull Hospital, Biddeford, Maine, June 1.

Dr. Boris J. Sohn, of the 1915 B.U.S.M. graduating class, enters upon a year's service at Emerson Hospital, Forest Hills St., Jamaica Plain.

Dr. Leighton F. Johnson, of the same class, is assistant at the Forest Hills Hospital, Morton St., Jamaica Plain.

The class of 1900 celebrated, this year, the 15th anniversary of its graduation. The class has made a practice of having a quinquennial re-union at commencement time. The first re-union in 1905 was celebrated by a dinner at Hotel Bellevue. The 1910 re-union and the present one were held at Woodland Park Hotel in Auburndale.

The third quinquennial re-union was marked by the presence of a large number of the class, seated at adjoining tables at the Pops Concert on B.U. night, Wed., June 2.

On Thursday June 3rd the class members and their families met at Woodland Park Hotel at 3 P.M. An exciting 8-inning game of baseball occupied the men in the afternoon while the ladies and the children enjoyed a party on the lawn.

Between the courses at the dinner the class sang, with gusto, the songs that used to be sung while waiting for a tardy professor. After dinner, bowling, pool and music were enjoyed until a late hour.

There were 37 in the party, a number of children being present and adding much to the pleasure of all. Eighteen of the party were graduated from B.U. in 1900.

It seems too bad that more of the classes do not make a feature of these occasions.

A very good photograph of the Faculty of Boston University School of Medicine can be purchased at the office of *The New England Medical Gazette*, 80 East Concord St.

*The New England Medical Gazette* wishes information of location in Massachusetts for experienced physician, who is willing to purchase small property.

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS.

### HOMOEOPATHY IN SURGERY\*

By A. I. HARVEY, M.D., Bangor, Me.

It is much to be regretted that in the enthusiasm of Surgical work, so many of our homœopathic brethren, — especially those who specialize in Surgery, — are prone to lose sight of, or forget altogether, the power of homœopathic remedies in diseases of a surgical nature.

That our remedies have a marvelous power — as well in Surgical cases, as in cases of disease which call for purely medical treatment, — has been demonstrated for years; and is being proved daily by those of our school who make a thorough study of *Materia Medica* and symptomatology, as applied to diseases, which, by the Old School of Medicine, are relegated to the operating table.

The surgeon deals with the tissues of the human body en masse; his work is purely mechanical. He deals with diseased tissues as the carpenter deals with unsound lumber; by cutting away the unsound portion, thus making the sound part useful.

To be sure the mechanical skill of the surgeon is of a very high order, coupled with a minute knowledge of the anatomy of the region operated; but the work done, what follows: Go into any Old School Hospital and you will find that the patient, after operation, is left without any medical treatment; the entire work of recovery being left wholly to nature assisted by a generous diet, and the rest, and care, which the hospital rules exact. It is to be feared that our own surgeons are inclined to follow this line of treatment to the exclusion of remedies, which, properly prescribed, are capable of assisting powerfully in restoring the patient to health.

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\* Read before the Maine Homœopathic Medical Society, June 8, 1915,

The work of the homœopathic physician differs from that of the surgeon in that it is not mechanical, but deals with the dynamic subtleties of life. Those mysterious forces which are the mainspring of cell growth, and cell disintegration. Nutrition, metabolism, etc., which cannot be seen and handled as can a morbid growth, but which may, when disturbed, result in many morbid changes in the various tissues of the body. This vital force when disturbed, gives rise to certain symptoms which can be seen and appreciated by the physician whose province it is to study the abnormal conditions; and by his knowledge of drugs to prescribe that one which, in accordance with the law of Similia, most nearly answers to the disease picture. This being successfully accomplished, the result may be left to the reactive power of the organism, and the cure follows.

The following cases are given in corroboration of the above statements, and are of special importance from the fact that they had been previously sent to the hospital for treatment without benefit. One was operated. The other was given the alternative of a knee amputation or death, by the hospital surgeons. Both are now in the best of health, cured by homœopathic medicine.

Case 1. C. W., male, age 28. He is one of a family of 11 children all alive and in good health in 1909.

Several years ago he noticed a small glandular swelling on the left side of the neck, which, not being troublesome, was not considered of any importance. Nothing therefore was done. It continued to grow until it reached nearly the size of a goose egg. He was then advised to go to the hospital for operation. He did so, and the tumor was removed, leaving a scar fully four inches in length, from the ear to the base of the neck. The wound healed well, and he returned to his home and occupation. Soon, other glandular swellings began in the neck on both sides, front and back, gradually increasing until the neck was as large as his head. About this time enlarged glands began to appear in other parts, particularly in the Axillæ. His general condition of health had been progressively deteriorating for some time; and when he visited my office his condition was as follows: He was emaciated, pale, weak, could hardly get to my office from the R.R. Station. Temp. ranging from 100° to 102°. Pulse ranging from 100 to 120. Night sweats. Diarrhœa, hectic, anorexia. Not a promising case, and I gave his friends a very doubtful prognosis, fully believing that he would not live three months. However he wished me to take the case, and I consented to do so without offering any encouragement whatever. His symptoms seemed to indicate Silica, and this

was given him in the 6x trit, to be taken in water, when at home, and a vial of Globules 2c, to carry with him when away from the house, a dose to be taken every 2 hours during the day. He was directed to live in the open air as much as possible, and make free use of eggs and milk as a diet.

A month later he came to my office for more medicine. No changes, except in a general way he thought he felt a little better. The neck was covered with glandular swellings in its whole circumference, feeling hard and knobby, and varying in size from a walnut to a hen's egg. Swellings in the Axillæ, preventing the arms from hanging by the sides. R̄ Silica 6x 2c.

At the next report, four weeks later, he was feeling better. Had a good appetite, and was eating well. Felt stronger. Night sweat not so troublesome, diarrhœa less frequent. Temp. around 100. Swellings not so hard, seem to be softening, but without fluctuation. R̄ Silica 2c three times a day.

The further history of this case need not be given. It will suffice to say that the patient steadily improved in all respects until the cure was complete. The glandular swellings in the neck all disappeared, also in the Axillæ. I ought to state that one or two of the axillary glands suppurated and discharged during the treatment.

He is now, and has been for four years or more, a perfectly well man, abundantly able to do a man's work, without a sign of any trouble save the scar left by the useless operation on the neck.

You will notice that on the third visit to my office, I discontinued the Silica, 6x, and continued the 2c. This was all the treatment he had, save an occasional dose of Sulph. 2c, while the diarrhœa lasted.

Case 2. Lucy M., aged 7 years was brought to my office in 1910 with the following history. Several weeks before a sore broke out on the upper third of the Tibia which discharged a thin sanious pus, but would not heal. The mother was advised to take her to the Hospital, and did so. After a week or ten days observation, the surgeons told the mother that the leg must be amputated *at once*, as the child's life depended upon it.

This the mother refused, and took the child home, soon after bringing her to my office. Examination showed an opening in the soft tissues at the upper third of the Tibia, from which a scanty, thin, watery pus was oozing. There was slight swelling, some soreness on pressure, but no pain. The child could walk without difficulty, and was well nourished. No constitutional symptoms present. My prognosis as to cure was favorable, if my instructions were followed. Silica was the only

remedy indicated, and it was given her in the 2c, a dose every 2 hours through the day. Instructions were given the mother to keep the child in the open air as much as possible, to cleanse the sore frequently, and keep a sharp lookout for possible spiculæ of bone.

The case was kept on Silica 2c for about two months, when, one day, the mother brought her to my office for examination. On removing the bandage, a small spicula of bone was seen in the wound which was easily removed with the dressing forceps. The treatment was continued and in two or three weeks the wound healed completely, and the child is in perfect health.

I might add in this connection, that the surgeons at the Hospital were so anxious to operate that they called at the home of the patient several times after they had been told that I was in charge of the case; and tried to induce the mother to allow them to amputate the leg contrary to all rules of "Medical Ethics."

After the child's recovery, one of these surgeons met the mother on the street, and inquired for the child. He was much surprised on being informed that she was well; and remarked that the child couldn't have had the disease they supposed she had, or she would never have recovered. If they had carried their point, the child would today be a cripple. A victim of faulty diagnosis.

These cases are enough to show what the homœopathic remedy can do in cases where Old School surgery has done its best, or worst, as the case may be. Further they illustrate the point made in the beginning of this paper, viz., that our homœopathic surgeons have, as an aid to their operative skill a most potent assistant, in the indicated remedy, prescribed in accordance with the law of Similia, without which, the results may often be disappointing, even though the operative technique is of the best. We cannot afford to leave to unaided nature, a task which can be expedited, and perfected by the use of the indicated homœopathic remedy.

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### FOOD AS A CAUSE OF DISEASE

By JOHN P. SUTHERLAND, M.D., Boston, Mass.

The question of food at the present time is to a very great extent a question of fads. This is a particularly unfortunate thing for humanity, lay and professional, and betokens a state of affairs that is lamentable. Fancies, sentiment and theories, tradition, habit and misconception are the guides whose potent and subtle influence determines, for the great majority of people,

a question, the importance of which is second only to the highest moral considerations. In this field, if anywhere, there should reign an intelligence founded on an unshakable knowledge. It is easy to prove that in no field so intimately connected with the life of mankind is there such widespread divergence of opinion. It is lack of definite knowledge concerning food, and lack of knowledge only, that accounts for the presence of such contradictory views. "Acid fruits are bad for rheumatism;" "oatmeal is too heating;" "milk makes one constipated;" "eggs make one bilious;" "fruits produce pimples;" "tomatoes cause cancer;" are just a few quotations from every day speech which are uttered with solemn assurance and solid conviction, but which have no demonstrable relation with actual facts. One hears of vegetarianism, of low protein diet, of uric-acid free diet, of salt free diet, of raw beef diet, of uncooked foods, of pre-digested foods, of pure foods, of eat-the-best-you-can-get-and-plenty-of-it diet, and so on, advocated earnestly by professional voices, but with vague and indefinite foundation on precise knowledge.

It may be taken for granted that such wide divergence of opinion is based upon ignorance, for in the sciences, the things that are known, one does not find such contradictory views. In Anatomy, Histology, Embryology, Bacteriology, in Chemistry, in Physics, Astronomy, Geology, in short among the sciences generally there is practically an unanimity of opinion that makes for certainty and progress. In Physiology hosts of fundamental facts are accepted as established, but when we come to the subject of what may be called "Applied Nutrition" we find ourselves in the midst of a chaotic mass of facts and fancies, opinions and convictions. It is certainly for the medical profession to rectify this state of affairs. Physiologists and Chemists should unite their forces to illuminate with the light of knowledge the field now darkened by ignorance. Dietetics should be made as definite and reliable as Mechanics, and in all medical schools one of the strongest and most useful courses should be the one in dietetics. I wish to emphasize the difference between a class in cooking and a course in dietetics, for many teachers of cooking know nothing of dietetics and the two things are as different as science and art. Medical schools have been far behind in the performance of their duty in not recognizing the vital importance of this subject.

In a general way it is universally acknowledged that the vitality, integrity, and health of the tissues of the body are dependent upon the blood stream which, circulating freely throughout the major and the most minute parts of the body, supplies all the parts with nutriment. It is widely acknowledged

that pure blood, free from irritating and noxious wastes, and containing all the varied and necessary ingredients, is needed from which to build up healthy and strong tissues. It is neither widely nor generally recognized and certainly not practically acknowledged that the blood *obtains* the "varied and necessary ingredients" from the substances eaten as food, and therefore that the prime value of food is to supply the blood with these "varied and necessary ingredients."

It would probably be of great service in establishing rational views on this vital topic to accept as a definition of food something like the following:—food is that substance, simple or compound, which when taken into a living structure may be transformed into that structure's own protoplasm and maintain its efficiency. This idea insists upon the accepted biological view that protoplasm is the physical basis of life and that while animal protoplasm consists chiefly of C, H, O and N, it also contains minute quantities of many elements not all of which presumably have yet been recognized. It is quite generally conceded that animal tissues contain carbon, oxygen, hydrogen, nitrogen, sulfur, phosphorus, chlorine, silicon, fluorine, potassium, sodium, calcium, magnesium, iron and manganese; fifteen elements; and traces of others have been found in the analyses of certain tissue cells. Food for human beings must consist therefore not only of carbo-hydrates and hydro-carbons, but of all the other ingredients of the cells of which tissues are composed. In addition to the needed elements it is also essential to keep in mind the proper quantities in which these elements should be supplied to the body, and in acquiring this knowledge there is much work yet to be done.

In these days we hear much about caloric values. Even the daily press in giving instructions "How to Feed Your Family," presents long tables of caloric values of natural and artificial food stuffs. According to these instructions the only thing to reckon with in selecting a diet is the number of calories furnished by anything. The same is true of tables presented by physiologists, dietitians, the menus at sanatoria, etc. Caloric value and efficiency seem in such estimates to bear a direct proportion, the one to the other. It is accepted as approximately correct that a laboring man needs 3200 calories to enable him to do his day's work, while the working woman needs about 2700. These figures are higher than those adopted by some authorities, but the fallacy of using the caloric value as a standard is shown by the one standard as easily as the other. For instance, according to tables credited to Professor Langworthy of the United States Department of Agriculture Experiment Stations doughnuts have a value of 2000 calories

per pound, chocolate cake 1650, oyster crackers 1965, — whereas rye bread has only 1115 calories per pound, brown bread 970, canned baked beans 600, fresh peas 465, oat breakfast food (whatever that is) 280, and spinach 110. White bread is valued at 1180 calories per pound and whole wheat bread at only 1110. Therefore the ordinary housewife or provider is fully justified in deciding that a diet of doughnuts, chocolate cake and oyster crackers is vastly superior pound for pound to a diet of rye bread, brown bread, baked beans, green peas, oat breakfast food and spinach, whereas the testimony of experience would seem to show the reverse to be true. White bread with its caloric superiority over whole wheat bread would also naturally be preferred to the latter. It cannot be too strongly emphasized that caloric value is simply one element to be considered in estimating the food value of anything. As will be referred to later, polished rice, which has a higher caloric value than the simple hulled rice, has killed many thousands of people, a mortality wholly unknown under a natural hulled rice diet.

With a rational conception of food as a substance capable of being transformed into protoplasm and maintaining its efficiency, the answer to the question, "Why do we, or Why should we eat?" is not far to seek. To be an epicure, to be a gourmand, or to be gluttonous or a greedy eater, or to live to eat, is not ennobling — and it is acknowledged by common consent that to be either is to lay the foundation for many of the ills flesh is heir to. One's life would be simplified, living expenses would be reduced to a minimum, intricacies and difficulties of housekeeping would be greatly decreased, the "high cost of living" would become an historic phrase only, doctors' bills would be less frequent and embarrassing, and the general comfort, ease of mind and essential happiness of mankind would be greatly augmented, if people would allow a truly intelligent and rational answer, an answer creditable to humanity the highest form of created life, to the question Why do we eat? to guide them in things dietetic. Instead of eating "because meals are ready," or "because it is time to eat," or to gratify a sensuous desire, to please the palate with fascinating flavors, to stimulate the appetite, one should eat for the prime purpose of maintaining and increasing his vitality, his efficiency, his endurance and his resistance. With some such idea in mind it becomes not only easy to overcome dietetic temptations but one sooner or later eats with a keen relish and steady enjoyment not experienced by the gourmet.

To realize what it is that we feed when we eat also helps us at times to decide what we should eat. A little common sense argument is usually enough to convince us that even

the most intelligent human being is simply feeding an animal body when he eats. The human being may possess wonderful powers of mind and spirit, but it is the body and its tissues that are fed. People never or rarely realize that what they are eating is developed into blood, bones, muscle, connective tissue, glandular epithelium and nerve tissue, etc. If they could realize that healthy brain and heart and muscle tissue can be obtained only by eating suitably proportioned food it would help them to refuse many things which the merest tyro in dietetics recognizes as unsuitable. Man feeds his domestic animals according to the amount and kind of work they have to do, and feeds them with the definite idea of producing efficiency. Some of his knowledge and common sense he should apply to the feeding of his own body.

It is matter of common knowledge that Nature has anticipated and provided wisely and generously for the needs of all forms of life. Birds of the air, beasts of the field and fish of the sea have been provided for, but it is necessary in each case for the animal to make some individual effort to secure the food that has been provided. By analogy, it may be claimed that the same Nature has provided those forms of food which may be transformed into healthy human protoplasm and maintain its efficiency. There is known to mankind a long list of edible grains and vegetables and fruits and berries and nuts all of which differ somewhat in kind, but all of which furnish some necessary ingredient of the human body. Nature sternly requires of Man that he make some effort to acquire these things, but man does not grow a potato, a grain of corn, or a melon. He can and must plant the seed and cultivate the crop and accept the harvest as a reward of his labor, but it is Nature, not man, that produces the wonderful and unfailing combinations which characterize the forms of food mentioned. It is after Nature has done her part that man's art steps in to produce combinations and results which in the majority of cases actually thwart Nature in her efforts to produce strong and healthy bodies. The art of cooking has probably become one of the most dangerous of the arts. Man's ingenuity and cleverness are doubtless exhibited as clearly in his ability to modify Nature's foods as in any other of his accomplishments. It is not an unusual experience for a physician to have to treat cooks and teachers of cooking for gastro-intestinal and constitutional difficulties unquestionably attributable to their vicious diet. One may know a great deal about cooking and yet know nothing whatever about diet. The two things are not by any means synonymous, yet as a rule no distinction between them is made.

As far as physiological chemistry can help us out we are justified in claiming that everything necessary to insure the growth and maintain the integrity of healthy human bodies may be abundantly found in the vegetable kingdom. Water alone is in some instances needed to complete the balance. Among the grains particularly, such as wheat, oats, rye, barley, corn, and rice we find in concentrated form everything in the way of starch, fat, sugar, protein and minerals to supply the needs of the growing or fully formed body. The ease with which these foods may be kept free from degeneration and contamination, and the length of time they retain under suitable conditions their own vital principles are points that seem to me very significant. Nothing in the realm of food has such keeping qualities. No pickling, salting, smoking or cold storage are needed to keep them sweet and wholesome. Many of the edible nuts possess these keeping qualities. Many of the vegetables and fruits can be kept for a season without difficulty, although many of them rapidly deteriorate when ripe. If we can interpret Nature's motives as evidenced by the keeping qualities of food it is certainly reasonable to claim that the grains should form the chief articles in man's diet. As a matter of fact they do, for there is nothing used so universally and liberally as the various forms of grains. The familiar phrase "Bread is the staff of life" may not be literally interpreted to mean the modern white bread, but in all probability it does signify literally cereal food.

Let us now briefly consider a few of the common conditions of unsound or ill health that are acknowledged to be due to a faulty or unbalanced ration—First defective teeth. Our modern school inspectors are insistentlly calling attention to the defective teeth of school children. Dr. McCann claims that there are 10,000,000 school children in the United States with defective teeth. This means insufficient mastication and a wrong initiation of the digestive process. It means an insufficient or faulty development of the maxillæ and the resulting indigestion, which is trivial to start with, but becomes as the years go by a more and more serious condition interfering with the development of a robust body and producing in many instances mental and moral defects. It is worthy of note that in Boston, a wonderfully complete institution has been established by philanthropically inclined and generous minded men known as the Forsythe Dental Infirmary for Children;—an institution which by the large numbers that patronize it evidently meets a "long felt want." That is, the evil results of defective teeth are fully recognized and efforts to overcome these ill results are being made. The all important question, however,

is, Why the defective teeth? The answer is simplicity itself. The so-called "food" that children are brought up on consists of a vastly preponderating amount of starch and sugar. Examination of the lunch boxes of children show them to contain white bread, jam, jelly, preserves, doughnuts and varieties of cakes. This gives an idea of what children eat for their lunches, and it is only fair to assume, and a little investigation proves the truth of the assumption, that children are "brought up" chiefly on starches and sweets. Nature is wonderfully clever and ingenious, but Nature never has been able, and never will be able to transform carbo-hydrates into the lime salts that are needed to furnish good bones and sound teeth, etc. It is a simple proposition that if the lime salts are abstracted from food in its manufacture or cooking the children will not have the lime salts wherewith to make these necessary structures.

It is a frequent experience that modern babies are slow in teething. This may be due to an insufficiency of lime salts in the milk that is fed to them, but it may also be due partly to an inherited weakness which is the result of an insufficient quantity of lime in the mother's dietary. In this connection it is reasonable to refer to the deplorable fact that the modern mother, if she belongs to what is known as the "better classes," is usually unable to nurse her young in spite often of an earnest desire to do so, and has to resort to some of the modern make-shifts. This is in all probability due to no fault of Nature, but to those faults of our civilization which demand delicacies and luxuries as the matter of food rather than the simple products of Nature herself. Assertion is not proof, but it is found that among simple peoples and among those whose circumstances in life compel them to use a simple diet devoid of the dainties and luxuries of prosperity mothers are almost invariably able to nurse their young, unquestionably to the very great advantage of their offspring.

Another condition worthy of consideration is the very common one known as obesity. Just where a normal rotundity or plumpness of figure leaves off and obesity begins has not been authoritatively decided. As a standard of proper weight, however, we might take the skeleton itself with its muscles, connective tissue, special and glandular organs and a necessary amount of adipose tissue to answer the few mechanical and physiological purposes it is probably intended for. It is apropos to note that an individual's bones are not bigger at fifty than they were at twenty to twenty-five; that the muscles of the body are usually not as large in a man of fifty or sixty as they are in a vigorous youth; that the liver and glandular organs are certainly not appreciably larger after middle life than they are

at the period of maturity; that the brain certainly is not larger at sixty than it is at twenty-five. Why then should it be looked upon as desirable that a person should take on aldermanic outlines and proportions by mid-life? Why should a person fifty years of age have forty, fifty, sixty or more pounds to carry about than he had at twenty-five? It is easy to prove that this extra weight is a physical and physiological burden. It requires more force to propel it from place to place; it requires more cardiac energy to keep the blood circulating through the increased tissue, and this leads up to possibilities in the way of cardiac hypertrophy, and arterio-capillary fibrosis and its attendant dangers. The portly and unwieldy figure of the obese is in many ways a handicap and the unfortunate individual frequently seeks medical advice and resorts to various kinds of treatment for a reduction of his weight. Many of the methods in vogue for the reduction of surplus fat may be harmless in themselves, but frequently are expensive and use time that might be used to better advantage. It is curious that people eagerly seek some method for the reduction of flesh aside from the only simple and natural method of abstinence from fat forming foods. Ages ago the Israelites in Egyptian captivity complained because they were expected to make bricks without straw. It is self evident that adipose tissue cannot be made without those things necessary to its production, such as fat, sugar and starch. Natural, simple, preventive measures do not appeal in this instance, any more than in others, to a mankind that is filled with its own conceit and that likes to do things its own way.

Another common ill, that of itself and with the addition of its usual treatment leads on to more serious consequence is constipation. Its pathology and sequelæ and discomforts need not be referred to. It is well known that many hundred thousands of dollars are annually spent in this country of ours in the manufacture and purchase of aperients, laxatives and cathartics. In this case we have as a prime factor in the production of constipation a faulty diet. The main fault lies in the removal to a large extent, often as completely as possible, of the cellulose found in the grains, vegetables and fruits; and in the insufficient drinking of water. The false and irrational notion too widely obtains that "coarse" food is irritating and injurious to the bowels. Therefore basing his actions upon an erroneous idea man attempts to improve upon the food furnished by Nature, with the usual result of disaster. But it is so much easier to eat white bread, cakes, pastry, puddings and delicately prepared food made chiefly from starch and sugar, and rich gravies and dressings thickened with starch, and then take

a compound cathartic, or a little liver pill, or something of the sort, than it is to make use from the start of the rational diet which is a sure preventive of this trouble. Eating too highly refined food, and overloading generally, are remediable measures. Here, as too often elsewhere, preventive measures do not appeal to humanity to the same extent that "curative" methods do.

One of the modern triumphs of preventive medicine along purely dietetic lines is in the discovery of the cause and in the treatment of beri-beri. Before this audience it is needless to give a detailed description of the pathology and symptomatology of beri-beri. It is enough for my purposes to emphasize the fact which has been abundantly proven that an organic disease of the nervous system which is fatal in forty to sixty per cent of the people attacked, and which has been prevalent from time immemorial, is produced by the eating of demineralized or polished rice. So satisfied are our government authorities concerning this matter that, on good authority I am informed, no rations containing polished rice are issued to our troops or civil employees in the Philippines. It is unnecessary to give the accepted explanations of the part played by demineralized or polished rice in the production of this disease. The points I wish to emphasize, and the significance of which, I feel are not at all appreciated by the average individual are, that those who eat, in large quantities, demineralized or polished rice are the ones who suffer from beri-beri, and the negative fact that those whose lack of affluence prohibits their using the luxury and compels them to use the nature product do not suffer from beri-beri.

A question which is before the profession for settlement and one toward the solution of which the brightest minds and the most serious efforts should be directed, and one which I am anxious to bring to the attention of this body, is: What is the main cause of the American disease "nervous prostration" the increasing prevalence of insanity, and the appalling frequency of cancer? Unquestionably there are varying *exciting causes* for these conditions, but to my mind it is not at all irrational to claim that the *predisposing cause*, as in the case of germ diseases, is more potent than the exciting, and it is a conviction of mine that the predisposing causes, in many cases, of these serious disorders are self induced, if not by the immediate sufferer, at least by his immediate predecessors, and that dietetic errors are mainly responsible for the development of these predispositions. Of course, I am not prepared to make the assertion that this is so, but I am convinced on reasoning by analogy, and analyzing such experience as has been made possible to me, that a thorough examination of all the data

connected with a large number of nervous diseases, insanity and cancer will ultimately reveal the fact that impoverished nutrition or a physiologically unsuitable diet, is responsible for the feeble resistance or the susceptibility which permits these diseases to establish themselves in the human body.

It is not intended to make any sensational or extravagant claims concerning the disease-producing possibilities of what people call "food," but which is in reality an unbalanced ration. In the light of the present day knowledge, or in the darkness of present day ignorance, one is not justified in making positive claims or assertions except in a few instances. It is perfectly proper, however, and may make for real progress, to assume certain things as working hypotheses. I am willing, therefore, for reasons to be given, to assume that the dietetic habits of civilized man are responsible for a very large number of the diseases which afflict humanity. One of the least excusable of man's many dietetic errors is the manufacture and excessive use of wheat flour, bolted and sometimes bleached. That this widely prevalent habit is injurious has been amply proven. The caloric value of white flour per pound is greater than that of whole wheat meal, on account of the preponderance of starch, but the impossibility of forming good bones and sound teeth out of a white flour diet has been referred to. Edie and Simpson (quoted by Bryce in his "Modern Theories of Diet") "found that adult pigeons fed exclusively on unadulterated and unbleached white wheat bread rapidly developed polyneuritis and died on the average on the twenty-ninth day. . . . and on an exclusive diet of whole meal or standard bread, which contains 80 per cent of the wheat berry, they maintained proper health." It is a matter of common domestic experience that the flour barrel may be opened many times a day during the hot and muggy days of summer without fear of "worms" developing in the flour, while every housewife knows the difficulty of carrying whole meal (of wheat, oats, rye or corn) under similar circumstances without having the meal infested by "worms." That is, "worms" know enough not to try to live on (or in) wheat flour, — a thing that intelligent man has not yet found out. The "worm" knows it can thrive and enjoy productive health on the whole meals, — a fact that mankind is loathe to practically acknowledge. Experimental evidence according to Bryce, and others, shows conclusively "that oatmeal, rye bread, whole rice, and barley, all of which contain organic compounds of phosphorus in varying degree, are incapable of setting up polyneuritis in pigeons, and that beri-beri does not occur when rice containing a sufficiency of P2 O5 'cured rice' is used."

In America, as is well known, we are eating white flour (partly demineralized wheat) as the staple article of diet,—in crackers, biscuits, rolls, breads, cookies, doughnuts, cakes and pastries of innumerable description and variety, in thickenings of soups, gravies, dressings, etc.

We are eating corn starch (demineralized corn) in puddings and confectioneries.

We are eating very freely of boiled, mashed and fried potatoes, demineralized by peeling.

We are eating polished (demineralized) rice in large quantities as a vegetable, in compotes, puddings and wafers, and giving these things as delicacies to our invalids.

Now if eating a diet consisting largely of starch and sugar is prejudicial to the formation of sound teeth (a school inspector recently reported to the writer that he had that day examined 35 children averaging five years of age and had found only two who had sound teeth);—

If eating too refined food is largely responsible for the universally prevalent constipation with its frequent chain of sequæ:—

If eating too freely of carbo-hydrates and hydrocarbons is the *sine qua non* in the production of obesity with its discomforts and dangers:—

If eating demineralized rice without restriction is the cause of beri-beri—(and who can doubt these things and much more in the same line that might be stated)—is it a very extravagant assumption to suggest that the cause, or at least one of the main factors in the etiology of insanity and cancer and a host of diseases, is in man's demineralization and modifications of the diet provided for him by Nature? It is certainly an interesting clinical experience that invalids suffering with various forms of nerve disorders, unwittingly produced by eating demineralized food, consult their physicians, who after thorough investigation of their conditions prescribe some of the large number of phosphates, phosphites, hypophosphites, etc., used by common consent as the most effective pharmaco-therapeutic agents in restoring such cases to health.

It is impossible in the brief presentation of a subject, such as is allowable on an occasion like the present, to do more than to suggest lines of argument,—details are not permissible. Arguments against the use of meat foods, and against the deplorably common use of cane sugar sweets, might be advanced and discussed possibly with profit, but I shall be contented if my remarks on Food as a Cause of Disease have served to quicken your interest in what is most surely of vital import to us all.

## MORPHINE SCOPOLAMINE AMNESIA

By FLORENCE N. WARD, M.D., San Francisco, Cal.

The evolution of the technique of morphine-scopolamine amnesia forms a most interesting chapter in obstetrics. The combination of morphine and scopolamine was first used in obstetrics by Steinbuechel in 1903, simply to diminish pain without producing narcosis.

It was tried with varying success by Wartapetian, who reported diminished suffering without danger to the mother. Weingarten of Giessen reported good results in 45 cases. Ziffer and Pusching and Bertino also reported series of cases with marked diminution of pain.

It was reserved, however, for Gauss of Freiburg to definitely elaborate a technique that not only diminished the sufferings of childbirth, but banished the *memory* of pain. He conceived and elaborated the method by which he was able to bring the patient to that zone of consciousness between full consciousness on one hand and deep narcosis on the other—that mid-zone, where sensations were not recorded in the memory centers, or so lightly recorded that the images quickly faded from the patient's memory.

This is the distinctive feature of the method and something that has been attained by no other technique, whereby the patient is gradually brought to the twilight, or semi-unconscious condition, and there delicately balanced by repeated doses, within this zone through the process of labor, without disturbing its mechanism or producing any damage upon either the mother or the child.

This amnesia is of two-fold benefit to the patient, not only in relieving her of her sufferings, but also in preventing the damage to the nerve centers from the exhaustion of long continued pain.

Gauss' morphine-scopolamine bears the same relation to obstetrics that Crile's anoci-association does to surgery,—the guarding of the brain cells from injury by the action of exhausting or baneful *stimuli* be they pain or irritation.

Their technique differs only in that Gauss, by his combination and repetition of drugs, suspends the action of certain brain cells—while Crile blocks the nerve at its terminal end so that it does not carry the irritating stimulus to the brain cell; each is alike, however, in acting to protect the brain from exhaustion and damage while painful processes are going on in the body.

After carefully studying Gauss' reports, there can be no doubt of their truth and of their painstaking and accurate detail and of their great value as an obstetrical contribution.

Although Gauss' reports of his first five hundred cases came out in 1906, the American profession has been slow in taking up his method. The first few trials not meeting with success, owing to poor *environmental* conditions and imperfect preparations of the drug—it was discarded.

The recent revival and exploiting of the method by the lay press has been unfortunate inasmuch as it has appealed so largely to the popular imagination and forced upon the medical profession a procedure for which it was not equipped nor prepared to execute.

Ill-advised and indiscriminate use of the method is already bringing about an increasing hostility against its use. To do away with this antagonism and to preserve a most valuable agent in obstetrics, it is necessary that a conservative attitude be exercised until the method is carefully worked out under favorable environment.

To help in this direction, this paper has been prepared, the scope of which is a critical analysis of many twilight cases observed in the obstetrical clinics during the past winter in New York and Brooklyn. A sufficiently large number of cases have been observed to demonstrate the success of the method both during the time of the labor and the after-results.

Without exception, in all the hospitals, the cases were conducted under many difficulties, insufficient equipment and service. In the hospitals, the rush of work was so great—the pressure of masses of cases with over-worked internes and nurses, that there was rarely either time or strength for the careful working out of a new technique requiring close observation and constant attention. Notwithstanding all these handicaps, the value of the procedure was constantly apparent, and its defects controllable under more perfect conditions.

The consideration of certain essentials is necessary:

- I. The selection of the patient.
- II. The drug, and its mode of administration.
- III. The details of the environment.

First: *The selection of the patient.* In this part of the work, *obstetrical* judgment is the first essential. An accurate obstetrical judgment must precede the drug. A careful estimation of the obstetrical power of the patient must be secured by ante-partum examinations before the patient can become a candidate for the administration of the drugs. It would be as extreme madness to give a patient the morphine-scopolamine technique when there exists a pelvis too small or distorted to

permit the foetal head to pass the inlet, as it would be to give another patient with a malposition or malpresentation — the drugs, and expect by some miracle that the abnormality be corrected. These cases being surgical demand interference instead of subduing the patient by drugs to hopelessly battle against insurmountable difficulties. The primiparous woman is the one beyond all others who should receive the morphine-scopolamine amnesia. The first injections should not be given until the labor is well inaugurated, so that there is no danger of the drugs inhibiting the labor pains. The cervix should be dilated at least two fingers, pains recurring regularly at intervals of five minutes and lasting at least thirty seconds. Multiparous women who give the history of having short and rapid labors should not be considered good subjects for the reason that it takes from one and a half to three hours to get the patient into the twilight zone. It is not desirable to have the child born during this stage as it is more apt to be affected with the drug from the two first large doses than later when the mother is well under the drug action and needs only small doses at longer intervals to maintain the semi-narcosis.

It must always be remembered that certain patients respond to the action of the drugs better than others and individualization of each patient must be made. After the first injection of morphine and scopolamine is given, she should be carefully observed to determine her susceptibility. This observation should be the index for the subsequent administration of the drug — in the size and frequency of the dose, according to the effect upon the patient. In other words, the drug should be adapted to the patient, instead of the patient subjected to a fixed and inflexible routine. Besides the normal primiparæ and the slow multiparæ, the nervous type of woman, oversensitive to the irritation of the uterine contractions is also a good subject, saving thereby for her an incalculable amount of nervous wear and tear. Patients having heart lesions respond most satisfactorily to the treatment, cardiac exhaustion being limited, they pass through the ordeal of labor with an ease that could not be attained in any other way. Also albumenic and threatened eclamptic cases of mild degree, — those border-line cases in which it is most desirable to subdue the irritation and the strain of labor to the greatest possible degree. These are very satisfactory cases.

Second: *The Drugs and the Mode of Administration.* After having observed the results of the administration of various drugs and combinations, Gauss' technique of morphine muriate and scopolamine shows the most uniform and satisfactory successes. We can do no better in standardizing so well-proven

a technique than by repeated reports to still further confirm the method. It is very essential that a stable preparation of scopolamine be used; that of Hoffman, La Roche is the best. It comes in ampules, each containing 1 c.c. and equal to 1/200 gr.

This preparation may be kept indefinitely without danger of deterioration, thereby preventing any possibility of the formation of poisonous compounds.

Narcophine, a combination of morphine and narcotin and mekonat (prepared by Boehringer Söhne) is a favorite derivative of Opium, that is very generally used instead of the morphine. It is about one third as strong as morphine muriate. Pantopon, Codiene and Heroin are also used, but none give the uniformity of results as are achieved from the morphine.

The Siegel method, the combination of Narcophine and Scopolamine, repeating the narcophin every third dose is not to be recommended. Under this technique more oligopnasic babies are born than with any other. The safety of the Gauss method lies in the fact that the original dose of morphine is rarely repeated except under the most extraordinary conditions. *Repetition of dose.* The first dose consists of 1/6 gr. of morphine and 1/133 gr. of scopolamine injected separately into the buttock or thigh. The scopolamine is repeated in three quarters of an hour — 1/133 grs., the same size dose as the first. In one half hour, the memory test is applied and the third dose of scopolamine, 1/400 of a grain, is given in from three quarters of an hour to two hours, according to the degree of amnesia. Rarely is an interval of more than two hours allowed to elapse between these small doses (1/400 gr.) as it is much more difficult to get the patient back into the twilight zone if she comes out fully than to keep her constantly in it, by the repetition of the small dose. The best results are achieved by the two large initial doses of scopolamine — three quarters of an hour apart — followed by the smaller doses as required, thereby getting the patient early into the semi-narcosis. The practice of some operators of giving one initial large dose and dropping at the second injection to the small dose does not give such good results, the patient by this method is teased along on the edge of the twilight zone, without being well into it.

A knowledge of the action of the drug will soon demonstrate when the patient is getting an over-action. The Babinsky, the pupillary and memory tests should be applied at intervals to determine the degree of the action of the drug, care being exercised, however, not to rouse the patient too frequently. Rarely is the first memory test necessary until one half hour after the second dose.

Third: *The Details of the Environment.* Attention to the details of the surroundings count greatly in the success of the case. Before receiving the first injection the patient should have had the preparatory care for delivery. She should be placed in a darkened room free from noise and under the care of an intelligent nurse, who is able to maintain absolute quiet, and at the same time the intelligent co-operation of the patient. The more intelligent the patient, the better can this be secured. The nurse keeps a record of the foetal heart, the maternal pulse, the character, length and interval of each uterine contraction taken every fifteen minutes.

The patient usually sleeps between pains, sometimes however, there is quite an outcry and restlessness with the pains; and to the uninitiated it may seem that the patient is fully conscious of her pain, but the next day the patient will remember nothing of the labor. The nurse is trained not to argue with the patient, nor to forcibly restrain her if she shows excitement — force always arouses antagonism.

As the end of the expulsive stage approaches, and the preparations for delivery are made, the same quiet should be observed, the pains now becoming so severe as to overcome the effects of the scopolamine, so great care is necessary to avoid arousing her. If awakened "islands of memory" may be developed, from which the patient may construct the whole labor.

Lifting the patient from her bed and carrying her to the operating room with its bright lights is not to be recommended, as it awakens her at the time when it is most desirable that the amnesia should be the most complete. To obviate this difficulty, I have planned a combination couch and operating table which does away with moving the patient. It is made by Kny, Scherer & Company of New York. The top is 30 inches wide and 72 inches long; it is in three pieces like an ordinary operating table, a head-piece, middle and foot sections. It is covered with a hair cushion and is low like a couch. The patient lies upon this comfortably during the labor. When the time for delivery is at hand, the upper surface of the couch is raised by means of a handle to the height desired by the operator — on the same principle as the ophthalmoscopic table. The foot piece is dropped; the patient's legs are flexed — the sterile dressings and towels arranged, preferably of dark material instead of white. A shaded electric lamp illuminates the field of operation while the rest of the room is in shadow. Delivery can then be controlled perfectly. Low forceps may be applied if necessary and lacerations repaired. Should any procedure be necessary that involves the infliction of much pain, and it is

not desirable to give more scopolamine, then a few whiffs of chloroform may be given, or better still inhalations of nitrous oxide in small doses. It is a good rule to avoid a dosage the last one and one half to two hours before the baby is born.

Fortunately fewer lacerations occur with the semi-narcosis, as with less violent expulsive efforts, the perineal stage can be better controlled. As soon as the child is born it is taken quickly from the room—that its crying may not awaken the mother. The sterile dressings are removed,—the vulva pads adjusted; the table is lowered, the patient put into a comfortable position and allowed to sleep for several hours undisturbed. The patient awakens, refreshed, with no memory of suffering or consciousness that her child is born.

As to the ill effects upon the child,—in well conducted cases, I have seen no oligopnœa of sufficient degree to cause anxiety. Gauss gives similar testimony. In the report of his last five hundred cases much better results were obtained in regard to the babies than in his first five hundred cases, owing to longer experience and smaller and better-timed dosage.

In regard to any ill effects upon the mother, none were observed. On the other hand, the mothers looked brighter and made easier and more rapid convalescence than those who had not had the semi-narcosis. The Frieberg method of earlier rising seems a logical corollary. At the Government Hospital in the obstetrical service under Dr. Knipe, it was most interesting to observe the post-partum treatment, i.e., resistant exercises of the trunk and limbs, begun in from six to eighteen hours after delivery. The patients were permitted to sit up out of bed for a short time the third day, carefully increasing the exercises and activity each day. At the end of the first week a better involution of the uterus and a better general tone of the patient was apparent, than we are accustomed to see at the end of the second week, by the older methods.

The distinguishing thing observed in all the Clinics, where the method was painstakingly carried out was an increasing enthusiasm over the method, with larger experience.

There is no doubt but that the method has come to stay. It will always be a hospital procedure, but as obstetrical cases should always be hospital cases, it will be one of the methods to exalt obstetrics to a much higher position in medicine with commensurate better remuneration in every way for the obstetrician and untold benefit for humanity.

## THE ORIGIN AND CONDUCTION OF THE CARDIAC IMPULSE; ITS DIAGNOSTIC, PROGNOSTIC AND THERAPEUTIC IMPORTANCE. III.

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### THE DIGITALIS GROUP\*

We now come to that group of drugs which have won such fame as remedies in heart disease. Since the principal drug of this group is digitalis we will take up this drug in detail, bearing in mind that the beneficial effects derived from the other drugs of this group in heart disease are, so far as can be ascertained by exact methods, dependent upon much the same action as that of digitalis. The other drugs of this group are:—strophanthus, squills, apocynum, to which may possibly be added convalaria, adonis vernalis and hellebore, together with their active principles and the glucosides, ouabain from strophanthus, digitoxin, digitalin and digitalein from digitalis. Digitalis contains besides these last three a saponin body digitonin which possesses the property of holding the otherwise insoluble active principles in solution in water; hence the infusion owes its activity to this principle. This has the opposite action to the other principles, but it is not absorbed to any extent from the alimentary canal. Of the unofficial preparations of this group I only mention digipuratum, digalen and digifolin, of which the first is perhaps the most reliable, being a standardized extract of digitalis freed from digitonin.

In order to better appreciate the modern views of the action of digitalis it might be well to review briefly the ideas of its *modus operandi* as held by former students of this drug; ideas which have led to its abuse as well as to its neglect.

Digitalis was first introduced into medicine by Fuchsius in 1542. It was employed for its emetic and purgative properties in cases of epilepsy, scrophula and dyspnœa. Although occasionally employed in dropsy it was not until Withering's publication of 1785 that the drug received any general recognition. Withering's attention was called to a receipt of an old woman in Shropshire who had been successful in curing cases of dropsy. The receipt contained twenty other ingredients besides digitalis, but this appeared to him to be the only active one. His investigation of this drug, comprising its use in 200 cases,

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led him to advocate its employment in dropsy in doses of three grains of the powder or one dram of the infusion twice a day.\*

From this time on we find repeated references in the literature to the beneficial action of digitalis. Ferriar in 1799 was the first to point out the characteristic action of slowing the pulse, adding that its diuretic power was both less constant and less essential. Beddoes and Kinglake<sup>2</sup> (1799) demonstrated that while the pulse was slowed it was also strengthened. Kreyssig classed this drug with cinchona as a stimulant to the circulation and therefore only to be used when that system showed relaxation and loss of tone. Three years later Bouillard<sup>3</sup> reported his observations on the slowing effect of this drug on the heart, describing it as "cette sorte d'opium de cœur."† Hahnemann recognized in the provings by Jörg and his eight pupils, the characteristic symptom of a slow pulse, and emphasized this as a characteristic, while Kurtz,‡ another writer of this school, brought out the fact that while digitalis at times slowed the pulse it might also at other times quicken it, but above all that it tended to make the pulse irregular.

From these varied and conflicting ideas as to the action of digitalis it is quite natural that we should find opposing views as to the indications for its employment as a remedy. Burns<sup>5</sup> as early as 1809 described the efficacy of this drug in cardiac dilatation, but he explains its beneficial action as due to a soothing effect upon that organ. The slowing of the pulse was the effect most sought for from its administration. Thus Pereira (1840) recommends its use "in aneurism and hæmorrhages in order to reduce the force and velocity of the circulation, placing it in the same category as repeated blood-letting."\*\* Corrigan in 1832 recognizing that it increased the diastolic pause warned against its use in aortic regurgitation from a purely theoretical basis.††

In 1859 there was published in Leipzig the prize essay of Baehr on "Digitalis Purpurea, its Physiological and Therapeutic Action." This book may be considered the second

\* Inferences.

"I. That the Digitalis will not universally act as a diuretic.

V. That in proper doses, and under the management now pointed out, it is mild in its operation, and gives less disturbance to the system than squill.

VII. That the Digitalis may be used with advantage in every species of dropsy, except the encysted.

VIII. That it may be made subservient to the cure of diseases unconnected with dropsy.

IX. That it has a power over the motion of the heart, to a degree yet unobserved in any other medicine, and that this power may be converted to salutary ends."<sup>3</sup>

An account of the Foxglove in W. Withering's Tracts and Memoirs. London. 1822. Vol. II. pp. 290-291.

† "La, nous preciserons les circonstances qui réclament les secours de la digitale, ce grand modérateur, cette sorte d'opium du coeur."

‡ Allgem. hom. Z't'g. Bd. 31. p. 308, quoted by Baehr.<sup>4</sup> p. 84.

\*\* Quoted by Cushny, Marris & Silberberg. Heart. Vol. IV, No. 1. Nov., 1912. The Action of Digitalis in Therapeutics. p. 33.

†† Quoted by McKenzie. Heart. Vol. 2. p. 273.

classic on digitalis, just as Withering's was the first, and as the recent monograph by McKenzie is the third and last. Baehr reviews all the available literature on the drug from the time of Fuchsius. He assembles the observations of its action in health and in disease, supplementing this by the results of animal experimentation. Finally he considers the therapeutic uses of digitalis from the allœopathic and homœopathic viewpoints. In most of the cases cited as evidence of its beneficial homœopathic action 5-15 drop doses of the tincture were used, although other cases are cited where the 2nd, 3rd or 12th dilutions were employed. His own conclusions are of interest in that he recognized the main selective action of the drug to be on the heart, especially through the vagus nerves, and that the chief indication for its use was a weakened heart displaying irregularity, and furthermore that it removed dropsical conditions dependent on inefficient heart force, and that fever was not necessarily a contra-indication to its employment. Moreover, it is very much to the point to note that Baehr should have laid the blame for the frequent failure of digitalis in the hands of homœopaths to be due to their lack of knowledge of the true action of the drug,\* a warning which has not yet been properly heeded.

In 1874 Schmiedeberg first demonstrated that digitalis had a distinct action on the frog's heart quite independent of its slowing effect through the vagus. It is the work of this pharmacologist in particular which is responsible for the present general idea of this drug being a cardiac stimulant. In the last twenty years much pharmacological work has been done on digitalis, of which we can only take the time to mention a few of the most important points. Gottlieb and Magnus determined by animal experimentation that the digitalis bodies exerted a constricting effect upon the blood vessels, especially in the splanchnic area,† and also that the systolic output from each ventricle may be increased to three times the original volume.

An analysis of the effects of this drug on the frog's heart reveals two diametrically opposed actions, the one on the vagus, the other on the muscle. The inhibitory action of the vagus slows the rhythm, diminishes the muscle tone and tends to produce an incomplete contraction and a more complete diastole, while the direct effect of the digitalis on the cardiac muscle increases its irritability and therefore tends to increase the rate, increases the muscle tone and thereby tends to render the relaxation of the muscle less perfect and the contraction more

\* Baehr is especially critical of the errors and incompleteness of Hahnemann's writings on digitalis.

† This has been confirmed by Tigerstedt and more recently by Joseph,<sup>11</sup> who found also a dilatation of the vessels preceding the constriction.

complete and prolonged.<sup>6</sup> The slowing of the rhythm is due to a stimulation of the vagus center in the medulla, but the "intracardiac inhibitory apparatus" is also stimulated.

On the mammalian heart the results of digitalis are very much the same. The important consideration, however, is the question as to whether the direct action on the heart muscle or the indirect action through the vagus predominates, and what the combined result of these two forces brings about.

Stimulation of the two vagus nerves results in other phenomena besides a slowing of the rhythm. That branch of the right vagus which supplies the heart sends most of its filaments to the sinoauricular node or pacemaker. The effect of stimulation on these fibres tends first to bring about a sinus arrhythmia and later induces the characteristic slow rhythm. Since the left vagus sends most of its filaments to the auriculo-ventricular node and bundle, stimulation of these fibres tends to bring about heart block.<sup>7</sup> Furthermore, stimulation of the right vagus may lead indirectly to premature auricular contraction, just as advanced heart block may indirectly lead to the production of premature ventricular contractions.

As to the direct effect of digitalis on the mammalian heart muscle, that is the stimulative action,—or the irritant action as we prefer to call it,—comparatively little is understood. The reason for this being the confusion of its manifestations with the indirect effects through the vagus. However as we now hear so much of digitalis as a cardiac stimulant it might be well to take up briefly the evidence at hand in support of this stimulant action. In the first place it must be remembered that the myocardium like all muscle is endowed with the essential properties, namely irritability, tonicity and contractility.

Digitalis, like the sodium salts, veratrine, eserine, most salts of the heavy metals and many other substances, destroys the irritability of nerves and muscles, as a rule after first producing increased excitability.<sup>8</sup> It is now generally understood that the normal irritability of nerves and muscles requires the maintenance of a definite chemical constitution in the tissue cells, and that any variation above certain limits suffice to alter, and if increased, to destroy this irritability. This is all in accordance with Arndt's Law\* which is being so assiduously studied and brought into prominence by Prof. Schulz of Greifswald. The chemical constitution of the heart muscle is dis-

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\* Arndt's Law is that a substance which paralyzes the function of a living cell stimulates that function in sufficiently small doses, impairs it in larger doses and finally paralyzes it. The working of this law is not always apparent as for instance in curare, nevertheless as a principle it may be generally relied upon. Its importance in therapeutics was first brought forward by Hahnemann.

turbed by the union of the digitalis bodies with the protoplasm of the muscle cells. The very presence of these bodies in the combination tends to irritate the myocardium. The first evidence of this is an argumentation of the amplitude of the oscillations in the electrocardiogram,<sup>9</sup> and an altered electrical potential in the apex as manifested by an inversion of the T wave.<sup>10</sup> This latter takes place within thirty-six to forty-eight hours of the oral administration of the drug, and may persist as long as twenty-two days after the administration has been stopped.

The first effect of digitalis on the cardiac muscle, then, is an irritant action. Irritation of this muscle tissue leads to an increased irritability or overexcitability which is manifested by premature beats of heterogenic origin arising in the auricles or ventricles or both, and may tend toward a tachycardia. The final result of this irritant action is auricular or ventricular fibrillation. All these events may be observed in animals overdosed with digitalis. On the other hand ventricular fibrillation has never been observed from the drug in the human subject, but auricular fibrillation, may be induced in man by digitalis providing certain abnormalities exist in the heart. This brings us to the all important subject of the action of digitalis on the diseased heart.

Before entering into this side of our subject it is necessary to note that digitalis in sufficiently large doses is capable of bringing on pulsus bigeminus or coupled beats, which may or may not be due to premature contractions, and also pulsus alternans which sometimes is an accompaniment of tachycardia or may be the signal of advanced cardiac failure. As the cause of pulsus alternans is not yet understood we can merely state here that it is probably an indication of the final effect of digitalis, namely the suppression or destruction of irritability.\*

When we come to discuss the *modus operandi* of digitalis on the diseased human heart we must base any arguments brought forward upon two factors. First the action of the drug on the normal heart, and second its effects on the various forms of heart disease. The first factor we have already taken up, and we have attempted to bring out some of the intricate problems which arise from this study. The second factor is one which involves further intricate and confusing problems, and consequently we must be very modest in drawing conclusions as to how digitalis benefits the sick heart.

The first work on the *modus operandi* of digitalis by means of our modern instruments of precision was carried out by

\* Possibly the pulsus alternans from digitalis may have something to do with the constriction of the coronary arteries, due to the established effect of this drug on the vaso-constrictors.

MacKenzie of London. His monograph<sup>12</sup> was published in 1911, and contains like that of Baehr a review of the action of digitalis on the various organs of the body, with especial reference to the heart, and then gives the results of digitalis administration on a series of heart cases, with the conclusions drawn from these observations. The conclusions reached are that individuals react differently to the drug, that "so far as the heart is concerned, the difference is partly dependent on the nature of the lesion with which the heart is affected;"\* that individuals having a lesion of the Bundle of His, especially as a result of rheumatism, are most susceptible to the drug; and finally that patients exhibiting auricular fibrillation and having a previous history of rheumatism with a lesion of the Bundle are most benefited by the drug. Furthermore he states that digitalis tends to produce auricular fibrillation.

Lewis in his "Mechanism of the Heart Beat"<sup>13</sup> informs us that poisonous doses of digitalis may bring about heart-block in healthy animals, but that a similar action has not been demonstrated on the healthy human heart, because corresponding doses cannot be employed. "The heart which has been affected by rheumatism and which manifests signs of impaired conduction presents a peculiar idiosyncrasy to the drug,"† and "it is, par excellence, in instances of heart disease which may be attributed to a past infection (rheumatic or choreic), that the dropped beats and 2:1 ratios follow the employment of the drug; it is in the same type of heart that digitalis slows the ventricle when fibrillation is present."‡ Further "the proposition therefore takes the final form that digitalis slowing in auricular fibrillation is due to the effect of the drug in increasing a pre-existing defect in the transmission of impulses from auricle to ventricle. Whether it acts directly upon the junctional issues, indirectly through the vagus, or partly in one manner and partly in the other, is not fully decided."‡ Mackenzie is of the opinion that this retardation of the ventricular beat is due at least in part, and some cases wholly, to the effect of the drug on the vagus.‡

Cushny<sup>14</sup> on the other hand, takes exception to the views of Mackenzie and Lewis, maintaining that "digitalis slows the pulse especially in those cases in which the previous rhythm is very high and in which the conduction may therefore be supposed to be fairly competent, while in other cases in which the pulse is only 60-70, and in which the conduction would appear to be less perfect, the rate is less affected by digitalis." "The

\* Mackenzie, J. *Digitalis. Heart.* Vol. II. 1911, p. 386.

† Lewis, T. *Mechanism of the Heart Beat.* London. 1911.

‡ Ibid. p. 245.

cause of the slow digitalis pulse in auricular fibrillation must thus be sought for in some other action than in the stimulation of the inhibition, and the natural suggestion is that the multitudinous stimuli descending from the auricle are prevented from reaching the ventricle by a block arising from the direct action of digitalis on His' bundle."\* Cushny further remarks that "the reduction in rate may be due to a direct depression of the conduction or of the excitability of the heart muscle by digitalis. But it is suggested that these functions are reduced indirectly through the improved nutrition of the heart from the augmented power of contraction of the heart muscle."†

Auricular flutter is a condition frequently benefited by digitalis. Here the digitalis produces block and slows the ventricular rhythm with resulting comfort to the patient. If carried further it induces auricular fibrillation without causing any further discomfort, and when the fibrillation ceases after withdrawal of the drug, the auricles return to normal rhythm. Out of 30 cases of flutter reported by Ritchie, 15 were returned to normal rhythm after the induction of fibrillation and its subsequent subsidence after the drug was discontinued. This restoration of the normal rhythm may take place anywhere from the third to the twenty-third day after leaving off the digitalis.

From this review it will appear that Mackenzie and Lewis explain the beneficial action of digitalis in auricular fibrillation as due to increasing the pre-existing tendency to block through a direct or indirect effect upon the auriculo-ventricular bundle, while Cushny, following the ideas of Schmiedeberg, explains its beneficial action through some direct effect upon the heart muscle, which, as we have already seen, is the least understood. Cohn's work at the Rockefeller Institute has an important bearing on our discussion, in that he has shown that the slowing action of digitalis through the pacemaker, i.e. via the vagus, may take place in the presence of fever, and further that the electrocardiogram shows the inversion of the T wave also in the presence of fever.

Let us now consider the *modus operandi* of digitalis from

\* Cushny, A. R., Marris, H. F., Silberberg, M.D. The Action of Digitalis in Therapeutics. Heart. Vol. IV. No. 1. Nov. 2, 1912. p. 54.

† Ibid. p. 58.

Cushny supports this hypothesis by citing a case of auricular fibrillation (p. 59) (not of rheumatic, choreic or scarlet origin) where the pulse rate fell from 140-150 to 90 by simple rest in bed, and rose a week later after the patient had gotten up. He argues that it is difficult to suppose that rest in bed could directly lessen the conduction or excitability sufficiently to change the rate from 140 to 90, and that it is more plausible to assume that it did so by improving the condition of the heart, and furthermore that as this was later brought about by strophanthus this drug probably acted in the same way, i.e., by improving the nutrition. We are not told whether the patient was allowed to be up after the administration of strophanthus. The fact the patient had been under digitalis before entrance to the hospital is a point which appears of importance. Moreover the whole case is apparently o incompletely given and so vague that it stands outside our discussion.

the pharmacological viewpoint of one who is interested in the homœopathic method of treatment. First are the conditions relieved by digitalis similar to the effects produced by the drug on healthy individuals? We certainly are not justified in giving an unqualified answer in the affirmative. Digitalis as Lewis tells us, exerts its striking beneficial influence in those individuals having a history of rheumatic or choreic infection who display a well marked heart block, especially in the presence of auricular fibrillation. But we have no reliable evidence that digitalis will produce a marked heart block or an auricular fibrillation when administered to a healthy individual not having a history of some infection which left a damaged bundle with a tendency to block. On the other hand the same author informs us that these cases having a pre-existing tendency to heart block through such a previous infection show an idiosyncrasy to the drug, though at the time of taking it they may be in good health with perfectly compensating hearts. This brings up the question as to what constitutes health. An individual may have but one leg or one eye and yet enjoy bodily health. He is to be sure abnormal, but if otherwise normal, he is certainly not considered sick. What I am coming to is the question of individuality. Homœopathic principles of treatment emphasize the importance of individuality in prescribing, i.e. the susceptibility of an individual to a drug. We are governed in the selection of our remedy to a great extent by whether or not our patient qualifies as being susceptible to this or that drug.\* So far as this applies to our subject we may say that the digitalis patient is, so far as we can go to-day, an individual having a previous history of rheumatism or chorea in whom there is a tendency to heart-block through a damaged bundle. Such a patient may exhibit health in spite of this abnormality, i.e. the condition need not necessarily discomfort the individual or interfere with his occupation and daily life to any appreciable manner. It does, however, render him susceptible to digitalis and to the condition of advanced heart block, auricular flutter and auricular fibrillation, all of which conditions when they exist from causes other than drugs of the digitalis group, that is natural causes, are benefited by the administration of digitalis. Herein lies the homœopathicity of the action of digitalis in diseases of the heart. The point to be considered, however, from the homœopathic viewpoint is that digitalis does not produce the conditions in healthy human beings which it benefits in the sick unless a pre-existing tendency to heart-block

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\* This is determined by an analysis of the provers. Persons exhibiting certain characteristics are thus said to be good subjects for this or that drug. This consideration of the individuality of the patient in prescribing is a feature of the homœopathic method which modern investigations in pharmacology are now giving credit to.

is already present. This pre-existing tendency then constitutes the individual susceptibility to the toxic as well as the beneficial action of the drug.

It will be apparent that I have carefully avoided the use of the term cure. This term, however, could be used in connection with the cases of auricular flutter where an aggravation in the form of auricular fibrillation is induced, followed by a return to normal rhythm after withdrawal of the drug. In this instance we see the long recognized phenomena of cure following an aggravation from the homœopathic remedy.

In partial heart-block the patient's condition is relieved by digitalis through the slowing of the ventricle. This effect allows of better circulation in the body tissues throughout as well as in the heart muscle itself. From this indirect beneficial action of the drug the heart muscle may regain a more normal tone, to such an extent that when the drug is withdrawn the heart may have acquired sufficient reserve force to allow the patient to resume moderate activity, which often includes the ability to earn a living. Here the duration of the cure\* is dependent upon the patient's respect for the reserve force of his heart, as the heart-block continues to threaten the patient with cardiac incompetency. Much the same thing applies to auricular fibrillation. The drug benefits the patient by shutting off the ventricle from the multitudinous and continuous impulses arising in the auricles. By thus establishing a more or less complete heart-block the ventricles are allowed to assume their own rate, which is slow and regular, the degree of regularity being dependent upon the extent of the block produced and the presence of ventricular premature beats. The circulation thus assumes a more normal character which does away with the general chronic passive congestion of the tissue, and with the dropsy if that be present. The coronary circulation is also improved with resulting benefit to the heart muscle. This improved circulation in the myocardium may or may not cause the auricles to cease fibrillating. If it does the digitalis has certainly removed the cause of the patient's discomfort and restored the patient to a condition much nearer that of health, possibly even to actual health. If it does not the beneficial action of the drug must be looked upon as purely palliative. In this connection it is surprising how long a heart-block sufficient to enable a patient to earn his living may be maintained by digitalis in a heart where the auricles persist in fibrillating. McKenzie states that he has seen many people

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\* The term cure is used here in the same sense as it is in connection with an operation for hernia. The cure of a hernia is largely dependent on whether the patient takes care not to strain the repaired structures.

with auricular fibrillation lead useful lives for long periods of years with no bad effect under the judicious use of digitalis.<sup>16</sup> It must be remembered that auricular fibrillation, if once established, tends to persist and that if abolished it tends to recur under very slight provocation. Here again from a homœopathic standpoint we may say that digitalis relieves the condition which it tends to produce in the susceptible individual. But it does so in a manner which is foreign to our conception of the pharmacodynamic action generally inferred from homœopathic literature in that it does not remove the underlying cause of the distressing symptoms, but, allowing the cause to persist, suppresses the consequences.

A word as to the dosage. From the time of Withering we find writers advising that the drug be pushed until nausea and vomiting are induced; the object being to get the "full effects" of the drug. Many authorities on the heart to-day advise the pushing of digitalis until nausea and vomiting is brought on; the reason given being that the drug should be pushed to the limit of toleration in order to get the maximum action obtainable. This boils down to the argument that if a little is good a lot is still better, an idea still prevailing in the minds of medical men whose pharmacotherapy is based on the blindest empiricism dominated by the teachings of Galen. In this I am not referring to any one school of medicine, but to a class well represented in all schools. The fundamental rule of dosage followed in the homœopathic school is in accordance with that most important motto in medicine too often neglected;—*primum non nocere*. This rule is that the dose of a medicine should be just large enough and no larger than is necessary to produce the desired effect.\* The desired effect is the recovery of the patient by means of the shortest, surest, safest and gentlest method. The follower of Hahnemann in seeking this desired effect emphasizes the last two adjectives. Consequently he does not give digitalis to the limit of tolerance, but gives enough only to gain the desired improvement as indicated by the relief of the patient. Have those who give it to the point of nausea and vomiting anything in their favor? We can find no clinical evidence which establishes the justification of this course. On the other hand there is ample evidence that such a course is unnecessary even though it might not be possible to establish that it injures the patient except by analogy. The procedure is certainly not the most gentle method as it induces discomfort. The theory that it is only when

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\* For a comprehensive discussion of this subject of dosage see A Lecture on Homœopathy before the Boylston Medical Society (Harvard Medical School) by my late uncle and namesake, C. Wesselhoft. Boston, 1886, third edit. p. 27.

nausea and vomiting are produced that the drug is exerting its most desired action on the heart is exploded by the work of Cohn at the Rockefeller Institute, since this investigator has demonstrated by the electrocardiograph that all that can be expected or desired of digitalis is accomplished by therapeutic doses long before the onset of nausea and vomiting.\*

In cases of auricular flutter Ritchie says that we frequently find marked susceptibilities to digitalis, and although large doses may be necessary to induce fibrillation it must be remembered that the larger the dose the less likelihood is there of the auricular fibrillation becoming replaced by a normal rhythm after the drug is withdrawn.<sup>15</sup>

My own experience with digitalis in hospital and private practice has been that in most cases a grain of the powdered leaf three or four times a day in capsule is necessary to produce the beneficial effect in advanced heart-block and in auricular fibrillation. This is kept up for five days and then withdrawn until the indications return for its use. In this way I have never seen any ill effects or toxic symptoms arise. I have not been able to establish any beneficial effects by means of the polygraph from one drop doses of the tincture or IX doses of the infusion tablets, although several patients reported that they felt better under these small doses. In a later publication I intend to report in detail on the result of this work, this paper serving merely as a preliminary note.

One factor in digitalis therapy which is neglected by many physicians is the comparatively long time that it takes this drug to bring about its desired effects. Physicians are too often like patients in that they imagine that a drug is doing good before it really is. I have had both young and elderly physicians tell me that they have seen digitalis help within an hour or two. In contrast to these statements compare the writings of such an authority and careful observer as McKenzie, who states that by the use of large doses such as two drachms of the tincture daily he has been able to get a reaction in two to three days, and that in a series of hospital cases of auricular fibrillation with a pulse rate of over 140 per minute, intravenous injections of strophanthin (1/250 gr.) may reduce the rate and give relief in five to eight hours, "but," he adds "I am of the opinion that it is only in very exceptional and urgent cases that this method is required."†

The object of this paper has been to fulfill in regard to digitalis those requirements of a physician laid down by Hahne-

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\* This information is derived from a lecture given by Dr. Cohn at the Brigham Hospital, but so far as I am able to ascertain is as yet unpublished.

† Mackenzie, J. *Diseases of the Heart*. 1914. p. 235.

mann in the third paragraph of the Organon, a paragraph which in itself is one of the most far reaching, comprehensive, and unchallenged in the realms of medical literature. I have tried to show the relation of the drug to the diseased conditions which it benefits. I do not claim that this thesis embodies all that it should for a complete consideration of the subject, but I have tried to bring out the salient points of recent pharmacological and clinical investigations and to correlate them with the idea of giving a better understanding of what may be expected and what should not be expected of digitalis in diseases of the heart. One possible suggestion to be derived from this study is that Baehr was lead to the proper use of this drug over fifty years ago by following the fundamental principle of homœopathic therapeutics. This much is to be said in favor of Baehr. He made a complete study of the drug in the literature, and then supplemented it by his own clinical investigations. In this way he followed the third paragraph of Hahnemann's Organon.\* Baehr did not recognize the entity of advanced heart-block with a slow irregular pulse, auricular flutter with the rapid irregular pulse or auricular fibrillation with the complete irregularity of the heart action, but he did recognize that digitalis was particularly indicated when the symptoms of these conditions were present. Four years ago McKenzie established by accurate clinical observations the efficacy of the drug in these conditions. To-day with our modern instruments of precision we can establish whether or not these conditions are present, and thus from our pharmacological knowledge also gained by these instruments we can prescribe digitalis more accurately.

Since Mackenzie and Lewis differ from Schmiedeberg and Cushny in regard to the *modus operandi* of digitalis in diseases of the heart, it is not unreasonable to hold a third theory that it acts according to that law of nature, which I have attempted to establish in connection with this drug, namely that likes are cured by likes. So long as medicine remains an art and not an exact science we must be governed largely by theories; and providing that such theories are based on scientific facts, and are not in reality hypotheses resting upon transcendental speculation they should serve as a stimulus for further search after facts and for amicable discussions rather than as barricades for sectarian hostilities. Finally this study of digitalis tends to bring out that one may consider a drug to act homœopathically, and apply it according to homœopathic principles without

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\* "The physician should distinctly understand the following conditions: what is curable in diseases in general, and in each individual case in particular; that is the recognition of disease. He should clearly comprehend what is curative in drugs in general, and in each drug in particular; that is, he should possess a perfect knowledge of medicinal powers."...etc.

necessarily conflicting with the more modern pharmacological conceptions of its *modus operandi*.

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## THE BLOOD — PATHOLOGICAL DATA

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The study of anemia and cachexia caused by parasites and neoplasms is a subject apart from the anemia of pernicious anemia and leukemia. The condition of the blood has long been recognized as abnormal, and that abnormality has been regarded as an important factor in the progress of cancer and the increasing weakness of diseases such as malaria and anchylostomiasis. As to the nature of these anemias there has been and still is a great difference of opinion. The methods of blood testing tending to show the actual pathological condition of the blood are varied. It is easy to estimate the amount of hemoglobin, but why it decreased was a question. The lack of correspondence in the decrease of hemoglobin and in the number of erythrocytes was unexplained. Blood counts showed a varying decrease in erythrocytes and increase in leucocytes, but failed of the uniformity necessary to establish a law.

The most logical data seems to be founded upon the isotonic conditions of the corpuscles and the plasm, and the development of toxic or hemolytic bodies which tend to deplete the resistance of the red blood corpuscles to solution in the plasma, and the development of a resistance to such solution. The earlier investigators along this line were Mosso (1887), Viola (1894),

Hamburger (1900), Lopicque (1900). In 1902, Viola announced his method of estimating the three resistances of red blood corpuscles. This method was improved by Ravenna (1903) and used by Siccardi (1905). In 1902, Obici applied the method to the study of the resistance of the blood of the aged, and in 1903 Viola conducted an important research on the resistance of the red blood corpuscles in cancer cachexia. The method still finds favor with foreign authorities, and is later advocated and used by Siccardi (1908) and (1910) in discussing the etiology and pathology of the anemia of ancylostomiasis.

The blood of patients afflicted with neoplastic growths presents a pathology peculiar to such conditions. While the blood of cancer shows an anemia, this anemia is different from the anemias of leukemia and helminthiasis, in that it is associated with a cachexia; that is, with a condition involving a grave disturbance of the digestion, assimilation and nutrition. The anemia of cancer does not consist so much in a decrease in the number of erythrocytes as in a decrease in the amount of hemoglobin. Many cases of cancer present a leucocytosis, others do not. The differential count of leucocytes presents so many different features that it may be said that every case of cancer presents a leucocyte condition peculiar to itself. The anemia and cachexia of cancer depend upon the isotonic condition of both the erythrocytes and the blood plasma. These are both so profoundly affected by the new growth, and in a manner yet unknown, that the erythrocytes begin to lose their resistance to solution and give up their hemoglobin in a minor degree in the very early stages of malignant growth.

With these observations in view, the blood of the cancerous presents the following points for study:—

1. The anemia and cachexia.
  1. Tonicity of the erythrocytes and plasma.
  2. Resistance of the erythrocytes.
  3. Estimation of the resistance of erythrocytes.
  4. Degree of disturbance of the blood.
  5. Effect on resistance of tissue.
  6. Possible effect of age.
2. The differential count.
3. The differential count of leucocytes.

Anemia is a condition of the blood characterized by a deficiency in the number of red blood corpuscles, a deficiency in amount of hemoglobin, or both.

Cachexia, in addition to the anemia, is characterized by a profound disturbance of the functions of nutrition resulting in weakness and emaciation.

Both conditions exist in cancer. As a general thing in the

anemia of helminthiasis and in the cachexia of cancer, the hemoglobin decreases in amount before the red blood corpuscles decrease in number. This is the case especially in cancer. The cachexia of cancer is very grave before there is material diminution of the red cells. In helminthiasis, when the anemia becomes more grave, with a hemoglobin index far below that found in cancer, the erythrocyte count becomes very low.

In the normal condition the hemoglobin is contained in the erythrocytes. It is prevented from going into solution by the osmotic balance of the plasma and the red cells themselves. This osmotic balance is called the isotonic condition of the plasma and blood cells. It is measured in terms of sodium chlorid. It is .46 to .48 per cent in the erythrocytes and .85 to .9 per cent for the plasma. For this reason a solution of sodium chlorid of .85 to .9 per cent is called a physiological salt solution.

If distilled water be introduced into the blood in sufficient quantity materially to lower the percentage of salts, the hemoglobin will commence to go into solution, and in increasing proportion as the amount of water is increased.

In addition to being salty, the blood is also alkaline. The introduction of acids into the blood tends to "lake" the red blood corpuscles and set the hemoglobin free. Certain other substances or bodies are termed hemolytic in that they destroy the red blood corpuscles and set hemoglobin free. In helminthiasis, and in the cachexia of cancer there is such a change wrought in the blood by substances or bodies yet unknown, that the red blood corpuscles lose in progressive degree their normal amount of hemoglobin. These hemolytic bodies are not of great virulence. They are not able to vitiate or destroy the blood in a day or two as snake venom or the toxin of tetanus. But they are of sufficient virulence to deplete the red blood corpuscles in their power to hold hemoglobin. In proportion as the red blood corpuscles lose hemoglobin, they lose oxygen carrying capacity and the power to nourish and repair wasting tissue. This depletion of the blood in the cachexia of malignant disease has an especially marked effect upon the progress of digestion, assimilation and nutrition. This is characterized by a failure in the secretion of hydrochloric acid, the consequent failure in digestion and assimilation. There follows a progressive loss of strength, a decrease in body weight and a peculiar yellow, leathery appearance of the skin.

These hemolytic bodies in the blood in cases of malignant disease are of such a nature as to arouse the hemopoietic organs to a considerable resistance. Newly formed red blood corpuscles in cases of cancer cachexia have a much greater resistance to

the solution of their hemoglobin than do the red corpuscles of normal blood. As the cancer grows and its poisons more and more vitiate the blood, these corpuscles succumb to the hemolytic influence and gradually fall below the normal in resisting power. The hemoglobin progressively goes into solution, the cachexia becomes more pronounced, the resistance of the tissues is progressively decreased, and the cancer grows apace.

The resistance of normal tissues to neoplastic growth and invasion depends upon their degree of tonicity. The health of tissue surrounding a neoplastic invasion depends upon its blood supply. In proportion as that blood supply is vitiated and impoverished, so is the resistance to neoplastic invasion decreased.

The influence of the cancer upon the blood can be seen long before there are any constitutional symptoms manifest. When to all other means of examination a cancer presents only a small local sore, its effect upon the blood is already plain. This is most readily demonstrated by the behavior of the blood of the cancer when treated by various graduated solutions of sodium chlorid. There are several methods for the study and demonstration of the resistance of red blood corpuscles to solution in weak solutions of sodium chlorid. Among the earlier are the methods of Mosso (1887) and Hamburger (1900). The first to divide the resistance of the blood into maximum resistance, medium resistance, and minimum resistance, and devise a method for their ready and simultaneous determination, was Viola (1902). The method of Viola, especially as modified and perfected by Ravenna (1903) and Siccardi (1905) is the best we have for the complete determination of the resistances of red blood corpuscles. The corpuscles which resist dissolution in the lower percentages of salt solution are said to have resistance maxima, the percentage of salt solution at which all of the corpuscles retain morphological integrity is called resistance media, the point where no more hemoglobin goes into solution is called resistance minima. It will readily be seen, therefore, that the resistance is the reciprocal of the strength of the salt solution. The resistances are reported in terms of the salt solution at which they are determined. The normal of red blood corpuscles may be stated as follows:

Resistance maxima.	Resistance media.	Resistance minima.
R1	R2	R3
.32	.38	.48

The method of Viola may be plainly stated as follows:

1. Prepare solutions of NaCl from 0.20% to 0.68% with a common difference of 0.02%.

2. Have 24 special test tubes, 8 cm. long, 1 cm. in diameter. Place in rack.
3. Fill three-fourths full of the series of solutions.
4. Ligate the arm and withdraw 2 or 3 c. c. of blood in pipette.
5. Quickly place two drops of blood in each tube of solution.
6. Mix thoroughly.
7. Observe at once, after three hours, and finally after centrifugation.

The percentage of salt solution in the tube first showing any erythrocytes is given as the resistance maxima; the percentage of the tube showing integrity of all erythrocytes is given as resistance media; the percentage of the tube showing no discoloration from dissolved hemaglobin is given as resistance minima.

The method as modified by Ravenna and used by Siccardi makes use of controls of normal human blood and of the blood of the rabbit. The preparation of the materials and the test are as follows:

1. Place a ligature around the arm of the patient.
2. Draw 20 to 25 c.c. of blood from a vein.
3. Repeat the process with a normal individual.
4. Draw same amount of blood from jugular vein of a rabbit.
5. Centrifugate each sample and collect serum and corpuscles.
6. Mix:
  1. Two parts serum of patient and one part of red blood corpuscles of normal individual.
  2. Two parts of the serum of the patient and one part of the red blood corpuscles of the rabbit.

Controls:

1. Two parts of the normal human serum and one part of the red blood corpuscles of the same individual.
2. Two parts of the serum of the rabbit and one part of the red blood corpuscles of the rabbit.
7. Place in thermostat at 37 C.  $2\frac{1}{2}$  hours.
8. Determine the resistances of each mixture by the method of Viola as given above.

By this modification it is possible to exclude error and make the determinations with the greatest accuracy. It will be found that in the blood of the cancerous the scale of resistance is markedly lengthened; that is, the young or recently formed red corpuscles have a greater resistance than the same cells in a normal individual, while the older cells have a lower

resistance than the same cells in a normal individual. For this reason the scale of resistance is lengthened from the normal,

R1	R2	R3
.32	.38	.48
	— to —	
R1	R2	R3
.24	.38	.54

the first highly resistant corpuscles appearing in a salt solution of .24 per cent and the final discoloration from hemaglobin not disappearing until a strength of .54 and even .60 per cent is attained.

By these methods it is possible to divide the different red blood corpuscles into three groups. Group one is represented by those test tubes presenting the tint of hemoglobin and the least deposit of red cells invisible to the naked eye. Group two is represented by those tubes in which there is a tint of hemoglobin and a deposit of cells visible to the naked eye. In the third group there is no color of hemoglobin with a deposit of all the red cells.

Authorities are generally agreed that the first group is composed of young corpuscles continually coming from the hemapoietic organs to supply the loss of corpuscles worn out and destroyed. The second group represents the great mass of the blood. The third group represents those corpuscles which are worn or weakened and are well on their way to destruction and elimination from the blood stream.

Patients suffering from cancer and desiring to be cured have learned that surgery is one of the most dangerous procedures. They justly fear the knife or anything savoring of an operation as they fear certain death. To these people the technique of the method of Viola and the modifications of Ravenna and Siccardi are objectionable on account of drawing so much blood. Many even question the procedure of drawing enough blood for a differential count. Working along the same lines and having in view the behavior of the red-blood corpuscles in salt solutions, I have worked out a modification giving very accurate results and obviating these objections.

### Process and Technique

1. Use two Thoma-Zeiss pipettes for erythrocytes.
2. Prepare a 0.32% and a 1% salt solution.
3. Make a puncture in the thumb about one-half centimeter above the nail.
4. Draw blood as for a count, using one salt solution in one tube, the other salt solution in the other tube.

5. Make the total count with the 1% solution.
6. With the same slide also count the corpuscles not crenated.
7. Estimate the percentage of the non-crenated corpuscles.
8. Corpuscles not crenated are of the minimum resistance.
9. Make a count using the 0.32% solution.
10. All corpuscles found are of the maximum resistance.

Since it is the presence of a decreased minimum resistance which demonstrates the presence of ishemolysins in the blood of the cancerous, the first counts made with the 1% salt solution generally give all the pathological data required. It must be remembered that the resistance is the reciprocal of the number of non-crenated corpuscles found; that is, the more non-crenated corpuscles, the less the resistance. The method is ready, accurate and quantitative. It will show the effect of the cancer upon the blood before any mark of the cachexia is evident by any other method.

As the growth of the neoplasm advances and its poisons attack the system, a resistance develops. This resistance is most manifest in the young corpuscles just entering the blood stream. By the method of Viola it is demonstrated by the appearance of corpuscles which do not go into solution until the dilution of sodium chlorid falls as low as 0.24 to 0.26% instead of at 0.32%. By the method of using the blood counting instrument, the increased number of cells surviving in the 0.32% solution is the measure of the resistance maxima. This is a very important determination in advanced cancer cachexia. This increased resistance must be produced by an anatonistic substance or body analogous to the antitoxins or protecting bodies in bacteriology. These hypothetic bodies are as yet unknown, and we can only estimate their power and value by their action on the red blood corpuscles. After all, this determination is the easier and of the greatest clinical value.

Much research work has been done, especially by the Germans, upon the hemolysins found in the blood of cancer. The chemical determination of hemolysins in the blood serum requires a considerable amount of blood which gives rise to the same objection heretofore noted on the part of a large majority of patients submitting themselves for treatment. As treatment and cure of cancer is the desideratum of all research, it is vital that the research technician accommodate his technique to the demands of the patient whenever possible. Thousands of cancer patients die annually because they will not submit to the knife and have been told that there is no other cure.

From the statistics of the detection of hemolysins in the blood in malignant disease, and the results obtained in these

laboratories in observing the behavior of erythrocytes in tonic and hypotonic salt solutions, we are convinced that the behavior of the corpuscle is a more delicate test than the chemical determination of isohemolysin. In the actual work of cancer research and treatment it is of more value than the determination of the quantity of isohemolysin, in that it gives an accurate indication, not of the amount of isohemolysin in the blood, but of the actual effect of the hemolysin on the red corpuscles themselves. By this method it is readily possible at the same time of making the total count of erythrocytes, with the same specimen and on the same slide to determine the minimum resistance from a few hundred thousands to two million or more red corpuscles in a total count of five million. This gives an accurate estimate of the vitiation of the blood all the way from beginning cases to advanced cachexia.

It has also been demonstrated that there are heterohemolysins in the blood of the cancerous. As these would have no effect upon the red corpuscles of the same person, and would only show results when used in testing or in controls upon alien animals, they can have only a scientific interest for the student of the blood of the cancerous from the viewpoint of the effect upon the patient and as an aid in treatment.

It has always been the object of these researches to secure data looking to successful therapy, rather than to devote time and labor to matters of purely scientific interest having no bearing on the cure of cancer. It is recognized that for the past ten years it has been very popular in many large laboratories to disregard the foundations of scientific research, ignore the postulates of Koch and devote time, money, talent and energy to the investigation of tumors of mice, rats, rabbits, guinea pigs and chickens. While these investigations and their results are very interesting from the viewpoint of pure research, their total failure as a basis of cancer therapy is summed up in their final announcement, "These tumors are not communicable to man." For this reason, and for the further reason that these laboratories have always been devoted to research with a view to the successful treatment of human cancer, no time or effort has been wasted upon research which from its very nature could have no bearing upon the problem in hand.

As the tonicity of all the tissues and organs of the body depends upon the amount and quality of the blood supply, the resistance of normal tissue to neoplastic invasion is measured by the resistance or quality of the blood. When a cancer growth commences upon a subject in good health, in the full strength of florid nutrition, the resistance is very great. An

epithelioma may be months or even years in growing to sufficient size to be painful or even to attract attention. In this beginning growth, and while there are no symptoms of cachexia which could be determined by a physical examination or by the ordinary clinical examination, depletion of the blood has already commenced. As the cancer slowly increases in size the resistance slowly decreases. As the power of the neoplasm to vitiate the blood increases, the ability of the blood and the surrounding tissues to resist the invasion decreases. Finally the patient, his friends and his physician are surprised at the rapidity of its growth. To the laboratory student of the resistances of blood in cancer cachexia, this is not surprising. The cancer growth has gone through a long period of preparation of the soil for its own propagation. The tissue cells are nourished by the blood. The tissue juices and fluids are furnished by the blood. Therefore the tissue cells and body juices are vitiated by vitiated blood. Tissue cells and tissue juices supplied by blood of low resistance become of low resistance themselves. Under these conditions proliferation and metastases of tumor cells are most rapid.

The great majority of cancer patients are past middle life. The question is often raised as to their natural physiological condition. It is suggested that their resistance and the condition of their blood would be inferior to that of younger persons in a florid state of health and nutrition. The suggestion is very pertinent, but does not suggest a new field of research. The very valuable data accumulated in a series of investigations by Obici has fixed the following resistances for the blood of the aged in a condition of health normal to their age:

From 60 to 69 years — R2, 40.3 — R3, 52.6

From 70 to 79 years — R2, 41.5 — R3, 54

From 80 to 88 years — R2, 45 — R3, 54.5

An increased resistance could not possibly raise a question here, as there could be no presumption of an increase of resistance in an individual of such advanced age as to be in a physiological condition of decline.

I have been unable to discover any uniform effect of the cancer growth upon the differential count of blood corpuscles. Under ordinary conditions the count is within normal limits. Only occasionally does an erythrocyte count rise to 6,000,000 or over, or fall to 4,000,000. In an advanced grade of cachexia there may be a fall of 500,000 or more. But the anemia will generally be found to depend upon the depletion of hemoglobin rather than on a decrease in the number of corpuscles. It is very probable that the decrease in red blood corpuscles, when

it does occur, is due to a progressive destruction influenced by the same agencies which produce the minimum resistance.

In the ordinary case of malignant growth, there is very little to be noted in the morphology of the erythrocytes. In advanced cases I have seen microcytes and macrocytes, and occasionally what I deemed an approach to poikilocytosis. In the estimation of poikilocytosis, it is difficult to exclude crowding, stretching and altering the form of an otherwise normal cell in making the smear, and the various artifacts due to fixing and staining. Some of the authorities speak of finding normoblasts and megaloblasts. In our experience, the ordinary case of cancer applying for treatment does not exhibit this condition. The morphological picture presented by the stained blood of cancer varies as the cases. The differences in coagulation make differences in the smear, no matter how skilfully or quickly made. The advance of the cachexia is a cause of a paleness of many corpuscles. The tendency to destruction is a cause of polychromatophilia where the polychrome stains are used. In a routine stain with hematoxylin and eosin this will not be apparent.

The readiness with which the blood responds to constitutional treatment is an encouraging feature in cancer cachexia. When the blood regains its normal resistance and nutrient powers, there is a halt in the malignant process.

Each case of malignant disease presents a leucocyte count peculiar to itself. We have found the total of the leucocytes generally about normal. Leucocytosis seems to occur when there is secondary infection and ulceration. Metastases involving the lymphatic system seem to increase the percentage of small lymphocytes, while other conditions increase the number of large lymphocytes or large mononuclears. Without attempting to draw general conclusions, a series of leucocyte counts in cases of malignant growth is here presented.

	(1)	(2)	(3)				(4)	(4)
Total.....		5,500	6,200	5,900	9,600	10,700	25,800	6,400
Neut.....	53.2	67.0	75.0	46.0	86.0	70.0	74.0	76.5
S.L.....	31.2	20.0	17.8	46.0	11.0	22.0	19.0	16.5
L.L.....	9.1	5.0	3.8	7.0	1.0	5.0	2.5	2.0
L.M.....	6.4	7.0	2.1	1.0	2.5	3.0	4.0	2.5
Eosin.....		1.0					.5	1.5
Mast.....								1.0
Myelo.....			.5					

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	(5)	(6)		(7)		(8)	(9)	
Total.....	7,000	5,500	6,600	6,900	6,300	6,400	11,400	11,000
Neut.....	68.0	67.0	67.5	73.5	70.7	60.0	72.5	65.0
S.L.....	22.0	15.0	25.0	26.5	19.1	20.0	15.0	16.0
L.L.....	3.5	3.5	3.0	.5	6.1	11.0	5.0	13.5
L.M.....	5.5	13.0	4.5	2.0	5.0	9.0	7.0	5.5
Eosin.....	1.0	1.5					.5	

	(10)	(11)						
Total.....	18,000	19,200	13,000	10,700	9,300	10,400	10,800	
Neut.....	69.5	72.0	69.0	55.5	55.5	51.0	71.5	61.6
S.L.....	16.0	19.1	11.0	33.0	25.0	29.0	21.5	18.1
L.L.....	6.7		6.0	3.5	11.5	17.0	3.5	10.5
L.M.....	8.0	4.5	10.0	6.5	6.5	2.5	3.5	7.6
Eosin.....			4.0	1.5	1.5			1.0
<hr/>								
	(12)	(13)			(14)			
Total.....	7,400	12,800	7,000	6,600	8,000	15,500	12,600	12,000
Neut.....	77.7	69.0	65.6	56.0	63.5	46.6	73.5	73.5
S.L.....	18.7	24.0	24.6	36.5	23.0	21.6	24.0	21.5
L.L.....	1.1	2.0	4.0	8.0	4.5	13.0	2.0	2.0
L.M.....	2.0	3.0	5.0	3.5	8.5	9.0		2.0
Eosin.....			.6	1.0	.5	8.6	.5	1.0
Myelo.....						1.0		
<hr/>								
	(15)	(16)						
Total.....	5,400	37,000	11,600	8,000	5,600	10,400	5,900	6,800
Neut.....	56.0	57.5	62.0	68.5	70.0	75.0	67.0	87.0
S.L.....	35.0	30.0	26.0	28.0	25.0	20.0	14.6	7.3
L.L.....	2.0	6.0	2.0	9.0	3.5	5.5	10.0	3.0
L.M.....	6.5	4.0	6.5	1.0	2.0	.5	5.6	1.5
Eosin.....							1.0	
Mast.....							1.3	
<hr/>								
	(17)	(18)						
Total.....	6,000	5,400	7,700	160,000	9,360			
Neut.....	53.0	71.0	90.0	79.0	72.0			
S.L.....	22.0	14.0	3.0	15.0	20.0			
L.L.....	16.0	11.5	4.5	.5	.8			
L.M.....	7.2	2.0	2.5	4.5	7.0			
Eosin.....	1.0			1.0				

### Explanation of References

- 1 A case of chondro-sarcoma in an old lady. Hemaglobin 80 (Dare).
- 2 Epithelioma of the lower lip.
- 3 Bad case of epithelioma of penis.
- 4 Bad case of epithelioma of penis. Before and after treatment. Before treatment, hemaglobin 90, cachexia and resistances of Viola evident. After treatment, hemaglobin 100, resistance of erythrocytes normal.
- 5 Carcinoma of the rectum. Hemaglobin 90.
- 6 Post operative carcinoma of the breast. Hemaglobin 95.
- 7 Epithelioma.
- 8 Epithelioma.
- 9 Lymphatic involvement.
- 10 A bad case of sarcoma.
- 11 Epithelioma of the lower lip.
- 12 A case of sarcoma of the orbit.
- 13 Carcinoma of the breast.
- 14 Lymphatic enlargement and light "hookworm" infection. Eosinophilia of helminthiasis. Not cancerous.
- 15 Marked cachexia, hemaglobin 80. Resistances of Viola marked.
- 16 Epithelioma of the lip.
- 17 A case of X-ray cancer.
- 18 Marked cachexia and infection. Hemaglobin 90.

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## THE VALUE OF THE X-RAY IN DIAGNOSIS IN INTESTINAL DISORDERS\*

By J. ARNOLD ROCKWELL, M.D., Cambridge, Mass.

The clinical picture resulting from the numerous laboratory examinations and physical tests supplementing a carefully obtained history in any case, is the end point from which the physician or surgeon selects his method of treatment.

It is safe to say that the present technic of radiographic experts has become so perfected in gastro-intestinal work that the internist and surgeon have found this rather recent addition to laboratory methods not only of great assistance in determining the diagnosis and treatment, but often the only examination that has given satisfactory evidence. In a recent paper read before the American Association of Gastroenterologists, Dr. Smithies of Chicago stated that there was no one dependable sign on which to base a diagnosis in gastro-intestinal study by the usual methods. Recent statistics and clinical evidence show that many of our older laboratory tests have failed to give us the definite data we were inclined to rely upon in earlier days. We are today in a period of transition, in a formative, constructive period. We are forced to accept recent studies in X-ray work as conclusive of greater exactness than any other single test and oftener than all other evidence combined, because of the clearer and more reliable findings, and include this added clinical evidence with the best of the older methods.

Only a few years ago our diagnosis of gastric cancer was based on twenty-four hour food stasis, blood either gross or occult, and a palpable tumor. More recently we were satisfied with the recognition of micro-retention, decrease in acidity, presence of lactic acid, and Oppler-Boas bacilli with occult blood in the stool. This evidence is very conclusive in that cancer is probably our diagnosis, but such evidence comes at a time in the development of cancer growth when operation is

\* Read before the Mass. Homeopathic Medical Society, April, 1914.

practically out of the question, especially so as it relates to a cure of the condition. The latest chemical test of stomach contents as the phospho-tungstic acid reaction of Wolff is uncertain, as are also the serum tests for cancer, such as the haemolysis test and the modified Abderhalden reaction.

Early recognition of cancer is the vital question today. In no field of research has the X-ray man done more telling work. We are happily facing the problem of early diagnosis of cancer with its early eradication and probable cure through surgical means. A recent monograph by Dr. A. W. George of this city on "The Early Diagnosis of Gastric Carcinoma" gives conclusive evidence of a very early recognition of pyloric cancer. To quote: "With the Roentgen ray, on the other hand, we have a means at our command which we believe has already shown itself to be of distinct value in detecting early carcinoma. We do not mean to infer that the method is today an absolutely positive one, or that every case can be detected in its incipency; but we do wish to state emphatically that we are already in the possession of certain evidence which pushes the limits of diagnosis much farther than can be done today by any methods of examination.

"The Roentgen diagnosis of gastric carcinoma is of two sorts. First, there is the early recognition of what may be called advanced or latent carcinoma. These cases show rather extensive filling-defects in the bismuth mass, with characteristic gross irregularities. Such cases are often missed clinically, even with careful gastro-intestinal examination, because they may not cause obstruction; indeed they may produce hypermotility. This sort of Roentgen diagnosis, while interesting and settling matters for the patient, does not really help very much, because this type of case is not early enough to give hope of a radical cure.

"The other kind of Roentgen diagnosis is what we may call the early diagnosis of early carcinoma. This is the diagnosis that is of real value both to the patient and to the surgeon. Here we have distinct hopes of detecting the cancer early enough to obtain radical cure by the surgeon. This is the type of lesion that gives very few and obscure gastric symptoms. There is usually no obstruction; the acidity may be practically unchanged; there is, of course, no lactic acid; and there may be no blood in the gastric contents of stools. The data upon which even an exploratory operation could be advised are therefore very slight.

"These lesions are usually quite small, and are situated at the pylorus, or rather just pre-pyloric. They may be primary cancer, or the result of malignant degeneration of old ulcer.

The extension of growth from the pylorus is usually along the lesser curvature."

Many skeptics have been converted, and surgeon and internist alike have been forced to accept facts. Only recently Dr. Murphy of Chicago made the statement that he had been driven back to the operating table by the roentgenologist in no less than three cases where he had failed to find ulcers in the stomach, only to meet with success and finally locating the ulcers in the areas determined by the incisura on the plates.

Two methods of obtaining our diagnosis by the Roentgen-ray examination are available, — the fluoroscopic and the roentgenographic. The former studies the bismuth shadow through a screen and is an essential part of the laboratory outfit. In gastro-intestinal work it may be of value in supplementing the plate or photographic method, and in some instances may give sufficient evidence to make this latter method unnecessary. One of its great advantages is its inexpensiveness as compared with the necessary high cost of the photographic method. Again, much time may be saved in its application. The photographic method gives a positive record of great value for future reference and makes the serial study of pictures possible. A still greater advantage lies in the application of the stereoscope, bringing out as it does the relations of the shadows in splendid relief.

The generally accepted procedure starts with the examination of the gall bladder region, as gallstones often complicate our clinical findings. The patient is then given what is generally called a bismuth meal. Earlier, the sub-carbonate of bismuth was used, but barium sulphate has replaced the bismuth because of its cheapness, at the same time serving as well for the shadow study. Ninety grms. of this material are added to a half pint of buttermilk to which enough water is added to make the entire meal up to 500 c.c. Buttermilk is used because it holds the barium sulphate in suspension and is less rapidly absorbed than plain milk or other mixtures.

We are now able to follow the course of the bismuth meal from the time of its ingestion until it reaches the rectum. The patient is photographed immediately; again in six hours from the first exposure to determine gastro stasis, and to obtain outlines of the lower ilium, and in twenty-four hours from the first exposure for the findings in the lower bowel. If conditions in the colon are such as to create suspicion, a bismuth enema is given on the following day which offers added evidence to that already derived from the previous plates.

The interpretation of these plates is no easy matter and becomes the task of the X-ray specialist. It is pertinent to add

at this juncture that many errors in diagnosis have resulted from hasty readings from the plates by inexperienced observers or even by those who lack entire understanding of this special field in diagnosis. As has been said by prominent exponents in this field of work: when a physician wishes to have his patients' eyes examined he sends them to a competent oculist, not to a general practitioner or surgeon, and the same is true in this department of medical research. The specialist should be the one to determine the findings. When his opinions are formulated, knowledge of the clinical picture and history will aid the consultants in forming the final conclusions.

Every hospital should be supplied with the best up-to-date equipment for this work, which increases in value according to the quality of apparatus and the opportunities given to the one in charge of its department for research work and close study.

In the oesophagus the location and degree of obstruction may be definitely ascertained, and it is often possible to state accurately the nature of the obstruction. Diverticula spasms and extra oesophageal pressures may be differentiated.

In the stomach such lesions as cancer, gastric ulcers and functional disturbances, especially pyloric spasm, falls within the sphere of the fluoroscopic screen as well as radiographic method.

In the duodenum the screen examination is often sufficient to make a diagnosis, but here again the combined method must be recognized as of great value. As yet the examination of the small intestine has been limited to diagnosing lesions causing obstruction or to observing the motility of the small bowel.

The examination of the colon is one of the most fertile fields of study in modern medical diagnosis. Malignancy, obstruction due to kinks, adhesions, extra colonic tumors, various questions relating to colitis being most satisfactorily studied in this way.

As to gallstones, in patients over forty years of age, positive findings may be made in the majority of cases. Various X-ray clinicians report from forty to seventy-five per cent successes. In one laboratory out of a hundred operative cases, only four errors of diagnosis for gallstones were made. In another series of a hundred cases, gallstones were found in but six cases where they were not demonstrable in the plates.

## EDITORIAL.

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### HOMOEOPATHY AND SURGERY

The *Gazette* takes pleasure in presenting to its readers Dr. Harvey's paper on "Homœopathy in Surgery." Last year we reviewed Dr. Carlton's interesting and instructive book "Homœopathy in Medicine and Surgery" (Boericke and Tafel, 1914), a work very much admired by Dr. Harvey. The paper presented at the June meeting of the Maine Homœopathic Medical Society is a good supplement to Dr. Carlton's treatise on the subject, and worthy of perusal by many of our surgeons affiliated with the homœopathic school.

The neglect of Homœopathy by our surgeons and many of our specialists is due to the fact their chief interest is in the development operative technique. The use of medicine is to them merely incidental and of minor significance in the handling of their cases. The time spent by the homœopathic physician on the study of materia medica is devoted by the surgeon to the study of anatomy and operative procedures. The latter training differs widely from that of the physician in everything but diagnostics and pathology. The surgeon's mind must be of a mechanical bent. He attacks disease by the direct method. His attack is both tangible and definite, which, whether for good or for bad, is appreciated by the patient as something done. The physician may attack disease directly with sedatives, stimulants and purgatives, but these are crude measures in comparison to the indirect measures of which Homœopathy stands in the front rank. The ideal physician is one well versed in the intricate problems of physiology, bio-chemistry, immunology and pharmacology, in which the average surgeon has neither the time nor the inclination to indulge. The surgeon's lack of knowledge in these respects naturally leads him to refrain from placing any confidence in his own powers of employing therapeutic measures so intimately associated with the above mentioned studies. Consequently he is prompted to rely

on the direct methods which are more readily understood and appreciated by a mind trained to surgery. Thus the late Dr. Maurice Richardson was wont to remark that the only drugs he needed were opiates and cathartics. Another factor, however, which has led surgeons of the homœopathic school to discredit Homœopathy is the fact that many physicians of the homœopathic school are deviating their energies from the study of *materia medica*. This naturally leads to the careless prescribing of remedies, to poor results and to a diminished confidence in homœopathic therapeutics. This attitude is reflected on the minds of the surgeons with the result that they come to look upon their colleagues in medicine as nothing less than hypocrites. This attitude toward Homœopathy, however, is not universal, and we still find surgeons of the homœopathic school, both old and young, who are influenced by enthusiastic homœopathic practioners, men whose courage of conviction is founded on the experience born of interminable studies and observations of the finer and subtle reactions of the human body. To be an expert prescriber of homœopathic remedies is, therefore, hardly to be expected of a busy surgeon, but when one is found it were well to hark unto his words, for he has "added to his knowledge of *surgery* a special knowledge of homœopathic therapeutics," and therefore has more to offer to his patient and to the profession.

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## OBITUARY

### Dr. Benjamin C. Woodbury

On Tuesday, June 8th, 1915, Dr. Benjamin C. Woodbury of Patten, Me., died at St. Petersburg, Fla., where he had passed the last four winters for the benefit of his health. Dr. Woodbury was born in Buckfield, Me., September 16th, 1836. He was the son of Collins and Pamelia (Andrews) Woodbury, and the eighth in descent from John Woodbury, who came to Massachusetts from Somersetshire England in 1624, and later settled a large part of what is now Salem, Mass. His immediate ancestors removed from Beverly to Paris, Me., where the majority of them are now buried.

His conversion to homœopathy came about through his treatment during an attack of typhoid fever, by the late J. H. Payne, M.D., then of Bangor, Me. After the latter's removal from Bangor, he became the student of Dr. J. H. P. Frost, who afterward became Professor of Physiology at the Hahnemann Medical College of Philadelphia, formerly the Hahnemann Medical College of Pennsylvania. He graduated from the Hahnemann Medical College in 1866; in a class made illustrious through such names as W. L. Breyfogle, Edward P. Small, Constantine Lippe, and J. Heber Smith.

After serving an internship in the Philadelphia Homœopathic Hospital under the tutelage of Dr. H. N. Guernsey, he returned to his native state, practicing for the first five or six years in Bradford, where he married Miss Hannah Hill, daughter of George F. Hill. While living here he numbered among his intimate friends Hon. Lewis Barker of Bangor, and his brother David, who has immortalized the doings of "The Barkers and the Hills" in his famous poems. To this union with Miss Hill three children were born, one of whom, Dr. G. F. Woodbury of Patten, still survives.

During the Civil War, not being of sufficiently robust physique to enter active service, he organized a company at Bradford, which rendered loyal service to the nation. After the death of his wife he practiced for a short time in Bangor, and at the close of the war he settled in Patten where the most active years of his professional life were spent. Shortly after settling here he married Miss Matilda Albina Knowles and to this household four children were born, all of whom are still living.

His active practice continued here for a period of thirty-five years, when, in 1906, with his younger son, Dr. B. C. Woodbury, Jr., now of Portsmouth, N. H., he removed to Lewiston. After about three years, however, he relinquished active work and has since resided in Florida.

In his medical practice he was a strict follower of the teachings of Hahnemann, and his skill as a prescriber was widely known and appreciated.

In politics he was a strong Republican, and served frequently as delegate to county Republican Conventions. He was a member of the board of United States pension examiners on which he served both as president and secretary. He was a member of the Maine Homœopathic Medical Society, of which he was made an honorary member in 1907. He was a Mason and an Odd Fellow and for many years affiliated with the A. O. U. W.

He is survived by his wife and five children: Dr. G. F. Woodbury of Patten, Maine; Dr. B. C. Woodbury of Portsmouth, N. H.; Mrs. E. I. Wad-dell of Presque Isle, Me.; and Miss Gertrude Woodbury and Eugene S. Woodbury of St. Petersburg, Fla.

His remains will be brought to Maine for burial.

#### **Dr. Lewis Sherman**

Dr. Lewis Sherman, president of the Jewett & Sherman Company, of Milwaukee, Wis., died on July 2nd, at his home, after an illness of nearly four months. He was born, seventy-one years ago, in Vermont and after completing his studies in the Union College, Schenectady, N. Y., and in the Medical College, University of New York went to Milwaukee in 1870.

He was one of the earliest homœopathic physicians to practice in the State of Wisconsin and was, also, proprietor of a Pharmacy, and one of the members of the Pharmacopœia Committee of the American Institute of Homœopathy, rendering his valuable services to the publication of the last Edition of the Pharmacopœia.

He was President of the Wisconsin Mycological Society, and held memberships in the Wisconsin Archæological and the Wisconsin Natural History Societies, the City Club, and also was a member of Kilbourn lodge, F. and A. M., and Ivanhoe commandery.

Dr. Sherman leaves one son, Lewis, treasurer of the Jewett & Sherman Company and three daughters, the Misses Gertrude, Helen and Leta Sherman, all of Milwaukee.

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#### **MULFORD "FIRST-AID" IODINE AMPULS**

These ampuls offer Iodine in a convenient and permanent form for immediate use. Since Iodine is the ideal germicide and local antiseptic, if the same is applied directly to wounds or abrasions—particularly those following gunshot or blank cartridge wounds—it will prevent the growth of tetanus, streptococci, and other disease-producing germs.

Iodine "First-Aid" Ampuls are being used extensively in the European War, and are specially suitable for use in hospitals and by National Guards, Boy Scouts, industrial plants, schools, railroads and steamships, as well as in emergency kits of the household, in automobiles, police and hospital ambulances.

The individuality and convenience of the ampul will appeal favorably to all physicians.

## SOCIETIES

## International Hahnemannian Association

The thirty-sixth annual meeting of the International Hahnemannian Association was held at the Prospect House, Niagara Falls, June 22, 23, 24, 25. A large number of members were present from Chicago and Canada who are not often seen at the gatherings.

Some sixty papers were presented by various members and the discussion was active and interesting throughout. The papers largely pertaining to the Philosophy of Homœopathy and the application of the Homœopathic Materia Medica to a wide range of diseased states.

Important verifications were brought out in many of the papers.

Strikingly interesting proving of Scopolamine Hydrobromide was presented by Royal E. S. Hayes of Waterbury, Conn.

Dr. C. M. Boger of Parkerburg, West Virginia presented an important contribution to Materia Medica in the form of a Synoptic Key, an original arrangement of Materia Medica adapted especially to the use of students and practitioners who desire to get at a quick glance the genius and scope of each remedy. It is accompanied by a brief and graphic repertory the whole making an unusually complete book for bedside or desk use.

Dr. Harry B. Baker of Richmond, Virginia, presented a number of confirmations of *Ornithogalum Umbelatum*, a remedy little used in this country in recent years. Several papers dealt with recent provings and verifications of Radium Bromide some of which form a distinct addition to the literature of this remedy.

Officers chosen were: —

President, Dr. Henry Becker, Toronto, Canada.

Vice-President, Dr. Henry L. Houghton, Boston, Mass.

Treasurer, Dr. William R. Powel, Philadelphia, Pennsylvania.

Secretary, Dr. Frank W. Patch, Framingham, Mass.

It was voted unanimously to meet at Philadelphia in 1916.

## The New Hampshire Homœopathic Medical Society

The sixty-second annual meeting of the New Hampshire Homœopathic Medical Society was held at the Laconia Tavern, Laconia, on Wednesday, June 16th, 1915.

A large number was present and the meeting was full of interest and helpfulness.

The most important matter coming before the meeting was the ratification of the Governor's appointment of two members from this Society upon the newly organized State Board of Medical Examiners. Dr. H. M. Wiggin of Whitefield, and Dr. Charles W. Adams of Franklin, were chosen to represent the cause of homœopathy, and a unanimous vote of congratulation was extended to both physicians on behalf of the Society.

Resolutions were adopted upon the death of Dr. Tristram Rogers of Plymouth, the oldest member of the Society. Dr. Rogers was a skillful physician, a gentleman of the Old School, an ardent homœopathist, and one of the pioneers of homœopathy in New Hampshire.

Dr. H. E. Nadig of Stamford, Conn., and Dr. F. S. Eveleth of Concord, were appointed delegates to the American Institute of Homœopathy. Dr. Eveleth and Dr. E. D. Stevens of Francistown were chosen to represent the Massachusetts Homœopathic Medical Society, and Dr. B. C. Woodbury of Portsmouth was elected a delegate to the Maine Homœopathic Medical Society.

Dr. H. E. Whitaker of Gloucester, Mass., was elected to membership.

The meeting was then devoted to the reading and discussion of an interesting paper by Dr. H. W. Nowell on cancer research and a practical paper on "Twilight Sleep," by Dr. Edwin W. Smith of the Massachusetts Homœopathic Hospital.

Dr. Nowell's work at the Evans Memorial is already too well known to require especial comment, but the most notable feature of this paper was its frank acknowledgement of the inefficacy of the older method of research which directs its efforts toward finding a cure for cancer, rather than seeking

first its hidden causes. The newer method seeks first of all definite knowledge of the etiological factors in cancer production, hoping through this means to determine more certain means for its prevention and alleviation.

The treatment of cancer in Dr. Nowell's opinion must come from within the organism, not from without, and the homœopathist, directing as he does his remedial agents toward the individual symptomatology, can offer much more hope of relief than surgery alone, or any of the many unsatisfactory methods of the Regular School. His subject was entitled: "Suggestions in Regard to the Study of Cancer and Its Possible Prevention."

Dr. Nowell reviewed briefly his work with an immunizing serum, and his present use of a sterilized dilution of carcinoma toxin. He also mentioned the local use of lactic acid in rodent ulcer and the use of homœopathic remedies he has found useful in carcinoma. Careful study leads to the conviction that the cancer problem is a many-sided one, and bids fair to offer but little hope of solution for some time to come, yet Dr. Nowell looks hopefully forward to the final demonstration of the definite causative factor in cancer production, and the ultimate removal of the present obstacles in the study of its prevention and cure.

Dr. Smith, who has become widely known through his introduction of the use of the scopolamin method of anesthesia at the Massachusetts Homœopathic Hospital was listened to with much interest. The *prima facie* evidence afforded by his carefully tabulated charts and bedside notes were proof positive that this method is fast proving itself of definite value in the production of painless labor. Dr. Smith emphasized the fact that this latter term is not a carefully chosen one for the scopolamin-narcophin method, as there is no such thing, under this or any other known method, as a painless labor. The fact is that the pains of labor are not only present but effective, and the patient is not unconscious of them, yet, under the effects of the drug she has no recollection of them. The dosage, time of administration, and repetition necessary to the production of analgesia and amnesia were carefully detailed.

According to Dr. Smith, there are three questions generally asked regarding this method of treatment: first does it work, second is it safe, and finally is it practical? In answer to these questions he was able to demonstrate to the satisfaction of his hearers that under conditions far from ideal, that this method, particularly when given in the small doses originally recommended by Krönig and Gauss, has proven itself to be safe, effectual and practical. Maternal and infant mortality in the cases treated by this method have failed to show any increase. Contrary to the generally conceived idea this method can be successfully carried out in hospital and private practice, if the operator can afford the time, and patience to give to his cases the constant personal supervision necessary to insure their safe conduct. It suffices to say that both these papers were listened to with great interest.

A discussion of "Twilight Sleep" can scarcely be said to be complete without reference to the fact, as in the case of cancer, that the consideration of diet and hygiene is a most important factor. Many interesting problems confront the investigator. The term painless childbirth may seem less a misnomer, when the present day mother has learned, through care in diet and hygiene, to prepare herself for labor in such a manner that she can as easily terminate gestation as her less intellectual but less civilized sister. Similarly cancer, which if we are to believe the evidences of statistics, is constantly on the increase, must have its origin in the daily life, and represents in its finalities the sum total of every habit of thought, of diet, and environment of life. Improper habits in living express themselves in the pathological changes found in cancer, tuberculosis and a host of other chronic and fatal disorders. Let us seek to eradicate them by regulating the habits of life, and directing the individual in the proper channels of sane and healthful living. Thus cancer and "Twilight Sleep" offer the physicians two of the most profitable fields of research known to present day medical science.

The Board of Officers was reelected for the ensuing year.

A banquet followed at 6 P.M., to which about twenty members remained. It was voted to hold the next annual meeting at the Laconia Tavern, on the first Wednesday in June, 1916.

### Pennsylvania State Notes for July, 1915

*Hahnemann Medical College, Philadelphia, Pa., Graduates Class of Twenty-two.* Twenty-two young men, after four years of study received their diplomas at the sixty-seventh annual commencement exercises at their medical Alma Mater in the Garrick Theatre, on Thursday morning, June 3, 1915.

Dr. Woodbridge N. Ferris, Governor of Michigan, made the principal address of the occasion, speaking on "Making the World Better." The program included a variety of musical numbers, an invocation by the Rev. Floyd W. Tompkins, the conferring of degrees and awarding of prizes by the Dean, Dr. Wm. A. Pearson, Dr. Wm. A. Sylvis, presided at the organ.

A reception was held for Governor Ferris following the commencement exercises at the Adelphia Hotel.

In the evening at seven o'clock a reception was held in honor of the fiftieth anniversary of Dr. Rufus B. Weaver, as Professor of Anatomy, at the college, after which the Alumni Association held their annual banquet which was quite an elaborate affair and was attended by a large number of physicians. The Association paid tribute to the fifty years of service of Dr. Rufus B. Weaver, anatomist at the college, by presenting him with a gold medal, one thousand dollars in gold and a gold watch. Dr. Weaver's work in research and as an anatomist have won for him the attention of the medical profession of America.

Among the speakers at the banquet were: Dr. Wm. W. Van Baun, Congressman George S. Graham, the Rev. Floyd Tompkins and Harold P. Peckham, president of the class of 1915. Dr. Martin S. Budlong, of Providence, R. I., president of the Alumni Association presided at the banquet.

The following are the graduates of the class 1915 who attended the banquet: Linford Shepherd Besson, Stephen Campbell, Wm. Wallace Chisholm, 3d, Harry Dellmarr Conley, B. S., Earl Spencer Duncan, Roger Talmage Fox, Clarence Hamilton Gray, Horace Francis Kline, J. Glen Knauer, William Russell Levis, William Lemmon Martin, A.B., Ashton Earl Neely, Harold P. Peckham, B.A., LL.D., H. Malcolm Read, Myron Parkhill Rudolph, John Preston Sharp, Graydon Brown Smith, Francis Earl Spencer, Daniel E. L. Stedem, Max Riebenack Stockton, Alfred D. Strickler, and James Francis Tompkins.

*Hospital Appointees — Class 1915, Hahnemann Medical College: Hahnemann Hospital, Philadelphia, Pa.,* Wm. Wallace Chisholm, 3d, Huntington, Pa.; Earl Spencer Duncan, Coatesville, Pa.; Wm. Russell Levis, Media, Pa.; Wm. Lemmon Martin, Philadelphia, Pa.; Francis Earl Spencer, West Grove, Pa.; Daniel E. L. Stedem, Philadelphia, Pa.; Max Riebenack Stockton, Swarthmore, Pa.

*Women's Homœopathic Hospital, Philadelphia, Pa.* — Harry Dellmarr Conley, Philadelphia, Pa.

*Pittsburg Homœopathic Hospital, Pittsburg, Pa.* — H. Malcolm Read, York, Pa.; Myron Parkhill Rudolph, Pittsburg, Pa.; John Preston Sharp, Palmyra, N. J.; Alfred D. Strickler, Lebanon, Pa.

*Wilmington Homœopathic Hospital, Wilmington, Del.* — Ashton Earl Neely, Coatesville, Pa.

*Reading Homœopathic Hospital, Reading, Pa.* — J. Glen Knauer, Reading, Pa.

*Rhode Island Homœopathic Hospital, Providence, R. I.* — Graydon Brown Smith, Allentown, R. I.

*Sellwood Homœopathic Hospital, Portland, Ore.* — Linford Shepherd Besson, Ambler, Pa.

*West Jersey Homœopathic Hospital, Camden, N. J.* — Roger Talmage Fox, Tuckerton, N. J., and James Francis Tompkins, Philadelphia, Pa.

*Metropolitan Homœopathic Hospital, Blackwell's Island, N. Y.* — Horace Francis Kline, Abington, Pa.

The entertainment Committee of Hahnemann Alumni Association of which Dr. Wm. C. Hunsicker is chairman had arranged the following program as part of the entertainment for the visiting alumni:

Tuesday, June 1st., 1915

9-12 Ward Classes — Dr. Wells, Dr. Golden and Dr. Williams.

1-2 Medical Clinic — Dr. Bartlett.

- 2-3 Eye, Ear, Nose and Throat — Dr. Shallcross and associates.  
 3-5 Surgical Clinic — Dr. Northrop.  
 Gynecological Clinic — Dr. D. B. James.

Wednesday, June 2d, 1915

- 9-12 Ward Classes — Dr. Wells, Dr. Golden and Dr. Williams.  
 1-2 Therapeutic Clinic — Dr. Haines.  
 2-3 Eye, Ear, Nose and Throat — Dr. Shallcross and associates.  
 3-5 Surgical Clinic — Dr. Wm. B. Van Lennep.  
 Obstetrical Clinic — Dr. J. E. James, Jr.

The following additional changes in the Faculty at Hahnemann Medical College were recommended by the Governing Faculty on May 7th, 1915:

1. Dr. C. A. Bigler — Associate Professor of Rectal Diseases.
2. Dr. P. A. Tindall — Demonstrator of Ophthalmology.
3. Dr. J. V. F. Clay — Demonstrator of Otology.
4. Dr. F. O. Nagle — Demonstrator of Ophthalmology and Ophthalmological Pathology.
5. Dr. D. W. Horn — Lecturer in Hygiene.

The *Homœopathic Medical Society of the County of Philadelphia* held its regular monthly meeting at Hahnemann College, Thursday evening, June 10, 1915, at 8.30 o'clock. The scientific program consisted of the following:

"The Management of Pregnancy".....	Dr. A. G. C. Stetson.
"The Obstetrical Examination".....	Dr. J. E. James, Jr.
"The Mechanism of Labor".....	Dr. Oliver B. Waite.
"The Management of Labor".....	Dr. Warren C. Mercer.
"Obstetrical Anesthesia".....	Dr. R. Franklin Hill.

The election of officers took place at this meeting after which the meeting adjourned.

Wm. M. Sylvis, M.D., *Secretary*.

The *Clinic-Pathologic Society of Philadelphia, Pa.*, held its regular monthly meeting at Hahnemann College on Saturday evening, May 15th, 1915, at 8.30 o'clock. Following is the scientific program:

- |   |                    |
|---|--------------------|
| "Some Atypical Cases of Mastoiditis".....               | Dr. J. F. V. Clay. |
| "Prophylactic Typhoid Immunization in an Epidemic"..... | Dr. J. G. Wurtz.   |
| "Experience with Autogenous Therapy".....               | Dr. P. H. Ealer.   |

Several interesting clinical cases were discussed after which the censors reported favorably the names of Dr. Percy A. Tindall, 2102 Chestnut Street, and Dr. D. Howard Johnston, 3809 Chestnut Street. The meeting which was an interesting one was attended by a large number of members.

B. K. Fletcher, M.D., *Secretary*.

The *Homœopathic Medical Society of the 23d Ward of Philadelphia* held its regular monthly meeting at the Hotel Phoenix, Willow Grove, Pa., on Wednesday, May 19th, 1915. Many important topics were discussed at this meeting. There was a full attendance of members and a thoroughly enjoyable time was had by all present.

J. D. Boileau, M.D., *Secretary*.

The *Philadelphia Society For Clinical Research* held its regular monthly meeting at the office of Dr. E. A. Steinhilber, 671 No. Preston Street, on Wednesday evening, May 26th, 1915, at 9 o'clock. "Diagnosing," was the subject which was heartily discussed by a large number of members present. The meeting was an interesting one and was well attended.

E. A. Steinhilber, M.D., *Secretary*.

The *Germantown Homœopathic Medical Society* held its regular monthly meeting at the Hotel Continental, Ninth and Chestnut streets, on Monday, May 17th, 1915, at 9 o'clock in the evening. Dr. Walter C. Barker gave a demonstration of Deep Roentgenotherapy, using a Coolidge Tube, and which proved to be a pleasing feature of the occasion. The Censors reported favorably the name of Dr. Homer I. Sievers, of Atlantic City, N. J. The meeting which was an enthusiastic one was well attended.

F. R. Shute, M.D., *Acting Corresponding Secretary*.

*The Oxford Medical Club of Philadelphia, Pa.*, held its June meeting at the office of Dr. W. D. Bayley, Haddonfield, N. J., the members being the guests of Dr. Bayley. A paper entitled "The Falling Heart," was well presented by Dr. Bayley. The members were royally entertained and an enjoyable time was had by those present.

E. M. Gramm, M.D., *Secretary*.

*The Hahnemann Medical Society of Reading, Pa.*, held its regular monthly meeting at the Homœopathic Hospital, Reading, Pa., on May 13th, 1915. Dr. C. A. Yocom read a paper on "Preventative Medicine" which was well received and brought forth much discussion. The meeting was well attended and thoroughly enjoyed by all present.

E. K. Golding, M.D., *Secretary*.

*The Central Pennsylvania Homœopathic Medical Society* held its regular monthly meeting in the rooms of the York Medical Club, 10 West Market Street, York, Pa., on June 10th, 1915, at 12:30 P.M. The following was the scientific program:

"Boosting Your Business"..... Dr. O. S. Haines, Philadelphia, Pa.

"Mistakes in Blood Pressure"..... Dr. E. S. Snyder, Lancaster, Pa.

"Crataegus"..... Dr. I. H. Moyer, Columbia, Pa.

Dr. S. S. Mann, president of the Lancaster County Homœopathic Medical Society entertained the society by a short address which was thoroughly enjoyed by a large number of members who were in attendance.

G. A. Sayres, M.D., *Secretary*.

*The Homœopathic Medical Society of Delaware County* held its regular monthly meeting at the Crozer Hospital, on Thursday, May 27th, 1915, at 3:30 P.M. "Conservatism in Rectal Diseases," was the title of a paper which was read by Dr. H. B. Adams and was well presented. The election of officers to serve for the ensuing year took place after which the meeting adjourned.

G. C. Webster, M.D., *Secretary*.

*The Homœopathic Medical Society of Chester, Delaware and Montgomery Counties* observed its Montgomery County Day and June outing at the Plymouth Country Club, Norristown, Pa., on Tuesday, June 8th, 1915, at 1 P.M. Dr. J. E. James, Philadelphia, Pa., addressed the society on "Twilight Sleep," the discussion of which was opened by Dr. Warren C. Mercer, both of whom handled their subject in a very able manner. An elaborate luncheon was served at two o'clock to which a large number of visiting physicians did justice. The meeting was one of the largest ever held and a thoroughly enjoyable time was had by those present.

Isaac Crowthers, M.D., *Secretary*.

*The Women's Homœopathic Medical Association of Pittsburg, Pa.*, held its regular monthly meeting at the office of Dr. Julia C. Loos, East End Trust Building, Pittsburg, Pa., on Thursday, June 3d, 1915, at 8 P.M. Dr. Loos entertained the members by presenting a well prepared paper the title of which was "The Proper Way to Reserve a Case" and "Repertory Study." The meeting was an enjoyable one and was attended by a large number of members.

Anna D. Varner, M.D., *Secretary*.

*Physicians Form a New Society.* Many physicians from Lancaster and surrounding country met at the Hotel Wheatland, Lancaster, Pa., on May 12th, 1915, their guest of honor being Dr. B. F. Books, president of the Homœopathic State Medical Society, who encouraged the local physicians to organize a city and county society. Among others who addressed the society were Dr. E. S. Snyder and Dr. E. T. Prizer who suggested that a permanent organization should be formed to be known as the Lancaster County Homœopathic Medical Society, and which suggestion was accepted and put into effect at once, the following doctors being elected to office: President, Dr. S. S. Mann, of Columbia, Pa.; Vice-President, Dr. S. Ulrich, of Elizabethtown, Pa.; Secretary and Treasurer, Dr. R. Diehl, of Manheim Pa. The society will meet monthly.

**PERSONAL AND GENERAL ITEMS**

A very good photograph of the faculty of the Boston University School of Medicine has recently been taken and copies are for sale at two dollars and fifty cents apiece. Every one of the pictures, including President Murlin's, is a new photograph, taken expressly for the group. A limited number remains unsold and can be obtained at the office of *The New England Medical Gazette*, 80 East Concord St.

Our Chief Editor, Dr. Wilcox, having attended the annual meeting of the American Institute of Homœopathy, held at Chicago, will make a tour in the West, returning shortly to Boston.

Dr. Harry O. Spalding, Superintendent of the Westborough State Hospital has attended the meeting of the Hospital Superintendents Association at San Francisco, Cal. During his absence, Dr. M. M. Jordan, Assistant Superintendent, has been acting in the capacity of superintendent.

Dr. B. C. Woodbury, of Portsmouth, N. H., B.U.S.M. class 1906 was married on Friday, June 18, 1915, to Miss Gertrude Frances O'Neil, daughter of Madame Gertrude de Bielski of New York. Dr. Woodbury will continue to practice in Portsmouth.

*The New England Medical Gazette* wishes information of a good location in Massachusetts for an experienced physician, who is willing to purchase small property.

On June twenty-second Dr. Alfred E. P. Rockwell (B.U.S.M., 1899) of Worcester was married to Miss Lucy Wetherbee.

Dr. Edwin M. Kent, B.U.S.M., 1909 has returned from China where he has been surgeon to the Changli Hospital since his graduation from the school. He received his surgical training at the Massachusetts Homœopathic Hospital.

Dr. Harold L. Babcock, B.U.S.M., 1910, has returned from a month's vacation at his summer home on Sagamore Beach. As usual he devoted his time to his favorite hobby, natural history; this time he has made a special study of turtles which he will report to the Boston Society for Natural History.

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BERTA PEMBER NUTTER.

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS

### REPORT ON A SERIES OF NEPHRECTOMIES \*

By LEON T. ASHCRAFT, A.M., M.D., F.A.C.S., Philadelphia, Pa.

The removal of a kidney is always a serious step. It should not, therefore, be undertaken rashly, but only after the most careful consideration of all the circumstances. A diagnosis warranting this procedure must first be indubitably established; and, in the majority of cases, the fact that the other kidney is capable of taking care of the economy must be proved beyond any peradventure.

In an article recently published by me, entitled, "The Diagnosis and Treatment of Tuberculosis of the Kidney,"† the question of the indications for nephrectomy is considered quite fully. It may not, however, be amiss to mention here the principal tests that should be made before deciding to adopt this procedure.

In the first place, a very careful history should be taken, after which a cystoscopic examination should be made and bilateral ureteral catheterization done, the microscopical, bacteriological and chemical findings being compared. If necessary, use should then be made of the X-ray, pyelography, and the injection of some of the urine removed by catheterization from each kidney into guinea-pigs. Possibly injections of old Tuberculin may also be given the patient, in order to determine whether tuberculosis is the cause of the renal disease, as is very frequently the case. In fact, with the exception of two cases, all my nephrectomies were performed on account of renal tuberculosis. Consequently, the major part of this discussion

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\* Read before the Surgical and Gynecological Section of the American Institute of Homœopathy at Chicago, Ill., June 28 to July 3, 1915.

† Printed in the *New England Medical Gazette* for April, 1915.

will concern the necessity for nephrectomy in that disease. The only two instances in which other causes were at work were one case of hypernephroma, and one of septic infarct, both necessitating an immediate operation. For a detailed outline of each of my cases, see chart at the end of this article.

The following is a summary of the principal points in these fifteen cases:

*Sex and Number of Cases:*

Male.....	4
Female.....	11
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Total.....	15

*Ages:*

Males (4)		Females (11)	
Oldest.....	46 yrs.	Oldest.....	67 yrs.
Youngest.....	30 yrs.	Youngest.....	17 yrs.
1 above.....	30 yrs.	2 above.....	60 yrs.
1 above.....	40 yrs.	2 above.....	50 yrs.
Average.....	37 yrs.	1 above.....	40 yrs.
		5 above.....	30 yrs.
		Average.....	45 yrs.

*Onset Symptoms:*

- I. Hematuria, 4
- II. Pain over affected region, with frequency of urination, 6
- III. Suggesting renal colic, 2
- IV. Frequency of urination only, 1
- V. Pain over affected region, with no urinary symptoms, 1
- VI. Symptoms of perinephritic abscess, 1

*Diagnostic Measures Employed:*

- Cystoscopy
- Ureteral catheterization,
- Laboratory findings,
- Renal function; and (on tuberculous cases)
- Old Tuberculin,
- Guinea-pig injection,
- X-ray, and Pyelo-ureterography.

*Diagnosis:*

Tuberculosis,		Pyonephrosis,	1
Right kidney,	5	Hypernephroma,	1
Left kidney,	7	Septic Infarct,	1
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*Kidney function, Pyelography:*

All showed diminished function and quantitative output on affected side, with diminished output of urea.

Pyelography, in the cases examined by this means, showed varying amounts of destruction of the kidney pelvis on the affected side.

*Operative findings. (Nephrectomy in all):*

Of the 12 tuberculous cases,

Varying stages of tubercular degeneration had taken place.

I. Early stages, 3.

II. Diffuse — Caseo-cavernous form, 3.

III. Moderately advanced, 6.

*Period in Hospital:*

Longest, 75 days. Shortest, 13 days. Average, 38 days.

*Complications:*

None, 3. Anuria in first 24 hrs., 5. Mild sepsis, 4. Profound sepsis, 3.

*Results:*

Cures, 14. Deaths, 1.

There are several points in connection with the technique of the operation that I wish to speak of particularly. In the first place, the majority of these kidneys were removed through the curved lumbar incision, without resection of the last rib. In two cases, however, it was necessary, owing to the size of the kidney, to remove this rib. Such a procedure is not without danger, on account of the added risk of wounding the pleura; and even after removing the rib, one is frequently disappointed by the result. The object is, of course, to secure more space; but I have sometimes found that inability to bring the kidney freely into the wound is not due so much to the lack of space as to a short pedicle or to the fact that the kidney is bound down by adhesions.

As to the question of removing the ureter, Mayo is of the opinion that, instead of removing the ureter, including a part of the bladder, for extensive disease, one should excise only the kidney and the upper end of the ureter, treating the lower end of the ureter and the bladder with a five per cent. solution of carbolic acid. This, I may say, has been our custom. When, however, the ureter must be removed, in advanced cases, it is well to adopt the operation first suggested by Howard Kelly, and later popularized by Lilienthal: that of removing the kidney through an incision made as if for exposure of the external iliac artery.

will concern the necessity for nephrectomy in that disease. The only two instances in which other causes were at work were one case of hypernephroma, and one of septic infarct, both necessitating an immediate operation. For a detailed outline of each of my cases, see chart at the end of this article.

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Cures, 14. Deaths, 1.

There are several points in connection with the technique of the operation that I wish to speak of particularly. In the first place, the majority of these kidneys were removed through the curved lumbar incision, without resection of the last rib. In two cases, however, it was necessary, owing to the size of the kidney, to remove this rib. Such a procedure is not without danger, on account of the added risk of wounding the pleura; and even after removing the rib, one is frequently disappointed by the result. The object is, of course, to secure more space; but I have sometimes found that inability to bring the kidney freely into the wound is not due so much to the lack of space as to a short pedicle or to the fact that the kidney is bound down by adhesions.

As to the question of removing the ureter, Mayo is of the opinion that, instead of removing the ureter, including a part of the bladder, for extensive disease, one should excise only the kidney and the upper end of the ureter, treating the lower end of the ureter and the bladder with a five per cent. solution of carbolic acid. This, I may say, has been our custom. When, however, the ureter must be removed, in advanced cases, it is well to adopt the operation first suggested by Howard Kelly, and later popularized by Lilienthal: that of removing the kidney through an incision made as if for exposure of the external iliac artery.

Cathelin gives an ideal method of dealing with the stump. It consists in drawing the kidney forward as far as possible, displacing it from its niche and wrapping it with a gauze compress. Next, the various elements of the stump are separated with the fingers, and held with the aid of another gauze pad. Each of the vessels is then taken up with an artery clamp, and is tied separately, often without the patient's losing a single drop of blood. The best material for the ligature is catgut, provided that a good quality of No. 4 gut be employed. After the vessels have been tied separately and the kidney has been removed, a general ligature is applied, half a centimeter beneath all the others, and is tied with a double sailors' knot. Finally, in spite of the great security of this method, another general ligature is applied, one centimeter below the other, No. 4 catgut being used. In this manner, one obtains a very safe ligation of the stump. I sometimes apply forcipressure by means of a clamp having an elastic blade. This is retained in position for two or three days. The wound is packed with iodoform gauze, usually at the upper angle.

It has been my custom to defer redressings for two or three days, unless the temperature and pulse chart indicates sepsis. At the first redressing, the clamp is removed, the gauze withdrawn, and the wound treated as required.

In early cases of tuberculosis, where purulent degeneration has not occurred, the wound is closed absolutely tight and the dressings are left undisturbed for four or five days, unless the temperature-chart or the appearance of the outer dressings indicates the presence of pus. If much pus is present, a little wick of gauze is inserted in the lower pole, so that gravity may favor drainage. At the end of forty-eight hours, the gauze drain is removed. The wound is irrigated with antiformin, one dram to the pint. If there is persistence of pus, one may dress the outside with gauze soaked in the antiformin solution, these outside dressings being removed in twenty-four hours. The dressings are renewed every twenty-four hours.

In the very early, so-called "clean" cases, the patient may be propped up in bed at the end of forty-eight hours, and be out of bed within four or five days. In suppurative cases, however, they must remain in bed for at least a week before being propped up, and may not be out of bed for ten days.

If there is a continuation of the pus, a smear should be taken, and a culture made from it; and if the temperature still keeps up, an autogenous vaccine should be made. Often, in spite of the presence of tubercle bacilli, a mixed infection, usually with staphylococci, will be discovered. One-tenth of

one cubic centimeter of this vaccine should be administered every four days, until the temperature becomes normal.

For persistent cystitis, the bladder must be irrigated daily with 1 : 50,000 bichloride of mercury solution, commencing with 30 to 60 c.c.; and at each subsequent treatment, increasing the amount of fluid and the strength of the solution. Sometimes I employ a six per cent. carbolic-acid solution or a saturated solution of boracic acid. In all circumstances, I inject, after each irrigation, 10 c.c. of a twenty per cent. solution of carbonate of guaiacol, and one per cent. iodoform, in olive oil. It is remarkable what a beneficial effect this seems to exert on the bladder. By means of these methods, the capacity of the bladder is increased. The urine becomes quite free from pus, blood and debris; and the interval between the acts of micturition is prolonged from two and a half to three hours. This is true, not only of those who have been nephrectomized, but also of those in whom the tuberculous process is too far advanced for operative interference. To be sure, the procedure in the latter case is merely palliative; but it is distinctly so. In the former, however, it serves to heal any local lesions that may arise in the bladder.

The local pain may be combated by means of opium suppositories. The yellow oil of sandalwood, potentized tuberculin, and bacilinum are also of value. The hygienic treatment is that employed for tuberculosis anywhere in the body. The tuberculin treatment is of occasional value.

Table follows:

No.	Sex.	Age.	Onset Symptoms.	Diagnostic Measures Employed.	Kidney Function. Pyelography.
1	female	58	Hematuria and Chill. Tenderness and rigidity of the erector spinæ.	<b>Cystoscopy.</b> —Hematuria from left kidney, ureter spurting forcefully, ulcerations about ureteral orifice. Right ureter normal. <b>Urinary Findings.</b> —Tubercle bacilli from left ureter. Urea, 0.05%.	Phthalein: R. K., 5 min.; L. K., 10 min.
2	female	63	Pain over left kidney and left upper abdomen. Nocturnal and diurnal dysuria, existing four years. Urine scanty at times, again profuse. Gastric disturbances.	<b>Cystoscopy.</b> —Puffiness and inflammation of left ureteral meatus, spurting very slowly. Left ureter obstructed slightly below pelvic outlet of kidney. Considerable difficulty in entering pelvis. 3½ ozs. residual urine, more remaining. <b>Urinary Analysis.</b> —Sp. gr. 1022, alkaline and pus. Right ureter normal. Catheterized specimen normal.	Phthalein: R. K., 4 min.; L. K., 18 min.
3	female	67	Profuse hematuria, pain simulating renal colic. Intermittent hematuria, twenty days. Loss of weight.	<b>Cystoscopy.</b> —Left ureter spurting blood forcefully, meatus congested. Right ureter normal. Catheterized specimen from right kidney normal. Phenol-sulphonaphthalein test showed right kidney functioning normally. <b>Urinary Analysis.</b> —Tubercle bacilli absent.	
4	male	30	Profuse hematuria for three months, diurnal and nocturnal dysuria, loss of weight, rise of temperature and chills.	<b>Cystoscopy.</b> —Right ureter golf hole, acting sluggishly, emitting blood. Bladder ulcerated in patches, especially around right ureteral orifice. Left ureter normal. Nodulation of right epididymis. Indigo carmine test showed normal left kidney. <b>Urinary Findings.</b> —Tubercle bacilli present. Acid; albumin; casts. Urea, 0.01%. <b>Palpation.</b> —Tenderness and infiltration of right erector spinæ.	
5	male	40	Pain simulating renal colic, nocturnal and diurnal dysuria, loss of weight, chills and temperature rise.	<b>Cystoscopy.</b> —Right ureter swollen, congested, ulcerated, acting feebly. Catheter withdrew pus from pelvis of kidney. Left ureter normal. <b>Urinary Analysis.</b> —Tubercle bacilli. Acid; pus; albumin. Urea, 0.08%. <b>Palpation.</b> —Tenderness over erector spinæ.	
6	female	35	Nocturnal and diurnal dysuria, pyuria, slight hemorrhage, loss of weight. Tenderness over erector spinæ.	<b>Cystoscopy.</b> —Right ureteral meatus congested. Ulcerated areas about right side of bladder. Left ureter normal. Left ureter not catheterized. <b>Urinary Analysis.</b> —Catheterized specimen from right kidney tubercle bacilli. Pus; blood; acid. Urea, 0.08%.	Phthalein: L. K., 6 min.; R. K., 18 min. Pyelography not resorted to.
7	female	38	Chill, pain simulating renal colic, suppression of urine, vomiting.	<b>Cystoscopy.</b> —Not made. <b>Palpation.</b> —Lumbar tenderness, rigidity of erector spinæ.	
8	female	55	Pain over right kidney following course of ureter, frequency of urination and loss of weight.	<b>Cystoscopy.</b> —Bladder normal. Trigoneitis stricture. Uretero-pelvic function. Right ureter, pin-point. Catheterized ureters: Cloudy urine from right side, containing tubercle bacilli, acid pus, albumin and urea, 0.2%.	Phthalein, 5 min. L. side; 15 min. R. side. Quantity, 1 hr. 15% R. side. Pyelography, Collargol, Capacity, R. K., 14 c. c., L. K., 9 c. c.
9	male	33	Sudden testicular pain, drawing up of left testicle, pain extending to lumbar region, chill and vomiting.	<b>Examination.</b> —Tumor-like mass over left kidney, with marked tenderness. <b>Cystoscopy.</b> —Bladder normal. L. U. O. swollen, red golf-holed. <b>Laboratory Findings.</b> —Albumin, pus, blood, calcium oxalate crystals, tubercle bacilli, 0.3% urea.	Phthalein. Function normal. R. K. normal, L. K. diminished quantity, L. K., 1 hr., 15%. Owing to tumor over region of left kidney, pyelography contraindicated.

Diagnosis.	Incision, Pathologic Findings and Operation.	Period in Hospital.	Complications.	Results.
Tuberculosis of left kidney.	Posterior vertical and curved lumbar incision; tubercular areas scattered over cortex; degeneration of papillae tubercular areas in pelvis. Upper portion of ureter slightly thickened. Nephrectomy.	Thirty-five days.	None.	Cured.
Pyonephrosis of left kidney.	Curved lumbar incision. Large kidney. Cortical incision; tubercular areas; ureter kinked at pelvic outlet. Areas of degeneration about pelvis. Operation, nephrectomy.	Fifty-six days.	Anuria first 24 hours, mild sepsis, sinus.	Cured.
Hypernephroma.	Curved lumbar incision. Kidney slightly enlarged; upper pole showed several tumors about size of pea; tumor yellowish appearance, soft; some areas showed hemorrhagic degeneration. Nephrectomy.	Forty-five days.	Anuria, mild sepsis and sinus.	Cured.
Tuberculosis of right kidney, bladder and epididymis.	Perineal section for bladder drainage. Curved lumbar incision. Cavity in cortex containing about 1 oz. of pus. Tubercular degeneration of several parts of the cortex and pelvis of kidney. Degeneration and dilatation of upper portion of ureter for two inches below pelvic outlet. Nephroureterectomy.	Twenty-two days.	Sepsis.	Death.
Pyonephrosis and tuberculosis of right kidney.	Posterior vertical incision draining abscess, removing several phosphatic stones. Four weeks subsequently nephrectomy after establishing activity of sound kidney.	Seventy-five days.	Mild sepsis.	Cured.
Tuberculosis of right kidney.	Posterior vertical incision, cortex showed tubercular areas widely scattered. Nephrectomy.	Fifty-two days.	Mild sepsis.	Cured.
Septic infarct.	Posterior vertical incision, kidney drained. Three weeks later nephrectomy after establishing activity of sound kidney.	Fifty days.	Anuria first 24 hours, mild sepsis.	Cured.
Tuberculosis of right kidney.	Curved lumbar incision. Areas of tuberculous degeneration. Miliary tubercles cortical. Nephrectomy.	Forty-seven days.	Anuria, 24 hours. Fistula.	Cured at end of 16 weeks. No bladder symptoms.
Tuberculosis of left kidney.	Kidney large, lobulated, and degenerated in cortical areas. Nephrectomy with rib-resection.	Forty-two days.	Burning in urination, controlled by bladder irrigations of bichloride, 1:50,000.	Cured. Gained 18 pounds in 4 mos.

No.	Sex	Age	Onset Symptoms.	Diagnostic Measures Employed.	Kidney Function. Pyelography.
10	male	46	Pain and tenderness in L. kidney region. Evidence of profound sepsis. Frequent desire to urinate. Five years ago, stone removed from R. kidney.	<b>Cystoscopy</b> showed badly injected bladder, with pus flowing out of left ureter. <b>Laboratory Findings.</b> —Urine loaded with tubercle bacilli, pus in abundance, staphylococci, blood, albumin, casts, urea, 0.08%.	Owing to severity of and advancement of sepsis, pyelography not resorted to.
11	female	37	Sudden pain and tenderness over right lumbar region.	<b>Cystoscopy.</b> —Showed golf-holed ureter on right side. Otherwise, bladder normal. <b>Urinary Findings.</b> —Pus; blood; casts, hyaline; albumin; urea, 0.08%; tubercle bacilli. Old tuberculin reaction.	Phthalein: L. K., 5 min.; R. K., 11 min. Quantitative: R. K., 1 hr., 25%.
12	female	17	Frequency of urination, every fifteen minutes, with pain.	<b>Cystoscopy.</b> —Bladder normal. Slight trigonitis. Stricture of left ureter. <b>Urinary Findings.</b> —Urine clear, acid; tubercle bacilli. Old tuberculin reaction. Urea, 0.03%.	Phthalein, intravenous, R. K., 6 min.; L. K., 12 min. Pyelography: R. K., equals 9 c.c.; L. K., equals 17 c.c.
13	female	42	Frequency of urination, pain and tenderness over the left lumbar region.	<b>Cystoscopy.</b> —Generalized cystitis, trigonitis. L. U. O. swollen, engorged, admitting No. 7 catheter. <b>Laboratory Findings.</b> —0.08% urea, pus, albumin, blood, much debris; acid; tubercle bacilli, unidentified organisms.	Phthalein: Function R. K., 10 min.; L. K., 20 min.
14	female	30	Frequency of urination. Urinary distress.	<b>Cystoscopy.</b> —Bladder normal, with exception of slight trigonitis. Some congestion of left ureteral orifice. Bilateral catheterization of ureters. <b>Urinary Findings.</b> —Acid; pus; blood; urea, .01%; round cells; pavement epithelium; tubercle bacilli from left side.	Phenolsulphonéphthalein test: Function, R. K., 5 min.; L. K., 13 min. Pyelography: R. K., pelvis normal; L. K., pelvis distended.
15	female	31	Backache, hematuria, frequency of urination, urinary distress.	<b>Cystoscopy.</b> —Bloodvessels deeply injected. Trigonitis, marked, especially over left side. R. U. O., normal. L. U. O., situated on a mound, and surrounded by areas of inflammation. Bilateral catheterization of ureters. <b>Urinary Findings.</b> —Urea, .04%; acid; pus; blood; albumin; round cells; tubercle bacilli.	Phthalein: Function R. K., 6 min.; L. K., 14 min. Pyelography, Cargentes, 25%; 8 c.c., R. K.; 18 c.c. L. K.

**Antiphlogistine** provides the best, most agreeable and convenient known means of supplying continuous moist heat, in all inflammations. This can be maintained for 24 hours or longer, at a uniform temperature. Ordinary poultices soon become cold, clammy and uncomfortable to the patient and lose any remedial effect they may have had, before becoming cold.

Diagnosis.	Incision, Pathologic Findings and Operation.	Period in Hospital.	Complications.	Results.
Tuberculosis of left kidney.	Large, markedly degenerated kidney, with tuberculous abscesses. Cavity formation. Nephrectomy with rib-resection.	Forty-eight days.	Profound sepsis and fistula.	Cured.
Tuberculosis of right kidney.	Nephrectomy. Beginning early changes. Thickened capsule — due, perhaps, to former nephropexy.	Twenty-one days.	None.	Cured.
Tuberculosis of left kidney.	Nephrectomy. Bound down by kidney adhesions. Early invasion of upper pole. Remainder of kidney normal.	Thirteen days.	None.	Cured. Disappearance of urinary distress.
Tuberculosis of left kidney.	Nephrectomy following fistula. Multiple abscesses.	Twenty-eight days.	Anuria, 24 hours.	Cured.
Tuberculosis of left kidney.	Nephrectomy. Scattered areas of central degeneration.	Thirty days.	None.	Cured.
Tuberculosis of left kidney.	Nephrectomy. Kidney large, and bound down by adhesions. Cortical degeneration, with miliary tubercles. Rib-resection.	Thirty-eight days.	Mild.	Cured.

**Antiphlogistine** acts, through the cutaneous nerves upon the inflamed area, as a powerful stimulant to the blood-vessels and lymphatics, promoting elimination of morbid products. It supplies, by natural, physiological processes, regenerative material to the parts already suffering from that condition of perverted nutrition, which is a part of the inflammatory process.

## VENESECTION IN PUERPERAL TOXEMIA

By GEORGE ELISHA MAY, M.D., F.A.C.S.

Surgeon to the Newton Hospital, Newton, Mass.

The scope of this article is not intended to cover the various forms of treatment directed against this condition other than venesection. In the early history of medicine, blood letting was very commonly employed in nearly all acute and chronic maladies. In 1851 Frerichs attributed eclampsia to retention of urea in the kidneys and there was considerable discussion as to the advisability of venesection as a relief. After quite an extended trial by various practitioners the method fell into disuse, particularly in Germany, although some, among whom was Gensen, believed that in well-nourished and full-blooded individuals the loss of blood would be an advantage.

Since 1895 the theory of auto-intoxication has grown and with the knowledge that eclampsia was the result of poisons accumulating within the maternal organs due to imperfect elimination, the practise of blood letting was again tried.

Zweifel performed many experiments to prove that the theory that the blood of eclamptic women was thinner and contained more water than the normal was wrong. He found from his experience that the blood was thicker than normal, hence the stand taken against venesection was wrong. In 1911 his clinic again resumed treatment by venesection and he believes that it gives excellent results in combination with small doses of morphia and chloral hydrate, frequently repeated.

All agree today that the toxemia of pregnancy is characterized by high blood pressure which throws undue strain on the blood vessels and the heart, the latter organ being nearly always weakened by the degenerative action of the toxins. So treatment must be directed toward the elimination and neutralization of the toxins.

Newell says, in summing up a large number of cases, if a patient is at term, or nearly so, and there is no object in further risk for the mother for the sake of improving the chances of the child, labor should be induced and delivery followed by venesection performed to the point at which the blood pressure drops to a practically normal level, unless after delivery the patient's condition is absolutely satisfactory and the blood pressure approximately normal. If the patient is a month or more from term and unless the rapid increase in symptoms makes the termination of pregnancy obligatory venesection should be tried, as a palliative measure, 1,000 or 1,200 c.c. of blood being taken, the blood pressure being watched as a guide, since a

rapid fall of blood pressure may render it necessary to stop before this amount has been withdrawn. His custom in bleeding is to take the blood pressure of one arm while withdrawing the blood from the other. Venesection can usually be carried in this case to the point at which the pressure drops to 120, or under. One must remember, however, that the pressure continues to drop for some little time after bleeding has been discontinued. If there is no œdema, replace a portion of the blood withdrawn by normal salt solution. Relief from free venesection is prompt and permanent, at least, the threatening symptoms if they recur are milder.

Kirkley says, now that the error in regard to venesection is apparently being overcome, that some of the terrors of eclampsia will vanish and that this treatment will be more successfully managed. He does not see why venesection was ever abandoned; it was the main reliance when all that was guessed as to the etiology of eclampsia was the elimination of urea. It was then and is now the most efficient means at our command for the permanent relief of eclampsia. There is a large, an astonishingly large percentage of deaths in eclampsia, a mortality of from 20 to 25 per cent. of the mothers and from 33 to 50 per cent. of the children.

Williams says he personally has bled a large number of patients with excellent results, even if the patient has been thin and weak.

Lichinstein in the Leipzig clinic since 1911 has used the "expectant treatment" for eclampsia, this includes venesection in nearly every case and he reports a series of eighty cases with a mortality slightly over five per cent. Zweifel in a series of eighty-four cases by this method had a mortality of 5.9 per cent. Ballantyne, for seven years in charge of the Edinburgh Maternity Hospital, reports a period of twenty-one months in which he had forty-three cases with a maternal mortality of 9.6 per cent. Smyly declares it the most important remedy at our disposal and believes that all the benefits derived from other operative measures are due to the attendant hemorrhage. "The most important thing," he says, "is not emptying the uterus but in the loss of blood attendant upon it."

The experience of the writer has been somewhat limited, many of his cases being treated before the common observation of blood pressure, hence the same is not recorded. The following cases, however, may be briefly reported as illustrating the benefits in the writer's experience.

*Case 1. Mrs. H. Primipara; 22 years old. Passed through an easy labor of eight hours without incident. Frequent examination of the urine previous to labor had shown a normal*

condition. Blood pressure was not taken. Ten minutes after the completion of labor she complained of dimness of vision, headache, and was shortly seized with a convulsion. After prompt consultation with a leading obstetrician, various methods of treatment, such as chloroform, morphia, thorough evacuation of the bowels, and saline solution by rectum, were carefully carried out. No impression was made upon the eclamptic condition and the patient died in twelve hours.

*Case 2. Mrs. H.* Had had two normal pregnancies and labors and did not believe it worth while to take the trouble to send the urine to the physician for examination and about one week before expected confinement presented a condition of marked œdema, some dimness of vision, headache, and nausea. She was thirty-two years of age. Prompt eliminative treatment was undertaken. The patient was put to bed and under careful nursing improved until the time of labor, when she immediately became eclamptic, was delivered by forceps of a baby which lived but a few minutes and the convulsions continued. After several hours of what was then termed "classic treatment" without avail, the patient being absolutely unconscious with convulsions recurring about every twenty minutes until about sixty-three or sixty-four had occurred, venesection was resorted to and nearly two pints of blood was drawn from the median basilic vein. No other convulsions occurred, consciousness returned after twenty-four hours and she made a complete recovery.

*Case 3. Mrs. D.* Twenty-six years old, pregnant for second time; had shown, on frequent examinations of urine, no abnormalities. About one week before expected delivery she was seized with a convulsion. She was taken promptly to the Newton Hospital and after several convulsive seizures nearly two pints of blood were drawn. Convulsions ceased. Twelve hours after normal labor commenced. She was delivered without incident of a normal, healthy infant.

*Case 4. Mrs. W.* Thirty-eight, primipara, was brought to the Newton Hospital one evening in the ambulance with a history of several convulsions. No record of previous urinary analysis or blood pressure was obtained. Blood pressure was 215. More than one quart of blood was drawn. Her convulsions ceased, she was perfectly well for ten days, when normal labor ensued and she was delivered of a healthy infant.

*Case 5. Mrs. B.* Primipara, 26. Was seen in consultation on account of a rapidly rising blood pressure, it having increased from 140 to 195 within four days. There was a history of severe scarlet fever twelve years previous. The urine contained a large amount of albumen and many hyalin casts,

but she was feeling perfectly well. The question of inducing labor was discussed but abandoned. She was taken to the Newton Hospital where, just at the close of a short, easy labor, she was seized with eclampsia. Nearly one quart of blood was immediately drawn. Her convulsions ceased, blood pressure fell to 150; she remained in a semi-comatose condition for about four days and made an excellent recovery.

*Case 6.* Mrs. W. Primipara of 21, was carefully observed after the fourth month of pregnancy and nothing abnormal presented either in urine or blood pressure until the beginning of the ninth month, when she suddenly ran up from 130 to 170 blood pressure. She was placed upon a milk diet, put to bed, elimination treatment undertaken, but developed three days later convulsions and was taken to the hospital where about a pint and a half of blood was taken. She had no more convulsions, but as her condition remained unsatisfactory, her mental condition being clouded, and the blood pressure increasing again after the venesection, it was decided after consultation to perform Cæsarean Section, which was done, but the patient died on the second day following.

In conclusion, the writer would say:

*First:* That he believes venesection should always be thought of in connection with any puerperal condition, with high or rapidly increasing blood pressure.

*Second:* That it should always be done on the advent of either ante or post-partum convulsions.

*Third:* That the amount of blood should be sufficient to bring the blood pressure down to approximately 130.

*Fourth:* If oedema is not present the blood should be replaced partially by the intravenous or intracellular use of sterile salt solution. The method employed by the writer is that of a needle introduced into the median basilic vein in the same way in which blood is drawn for a Wassermann examination. This will, in most cases, be satisfactory, but in case the blood rapidly coagulates free opening of the vein should at once be employed.

This method of treatment can be employed either alone, but preferably in connection with other classical methods, such as rest, elimination, warm baths, and Cæsarean Section.

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## A STUDY OF TWENTY-FOUR CONSECUTIVE GASTRO-JEJUNOSTOMIES FOR PRE AND POST PYLORIC ULCER

By ROY UPHAM, M.D.

The operation of gastro-jejunostomy, accepted by the profession after some early brilliant results as a curative agent in many gastric affections, has naturally been applied in a too broad sphere of cases. As a result of this use in too extensive a field reports are beginning to arrive casting some discredit upon the operative procedure. It behooves all then to carefully study their cases to determine the field of applicability of the procedure, both as to the selection of the proper cases and the most satisfactory technic of operation. A consideration of twenty-five cases operated on by the author will lend some light and in a measure tend to counter-balance some data that is more pessimistic in view.

The period over which the following cases have been obtained amounts in the longest to three years and the shortest to six months; first considering them from a question of mortality only one case in the whole series died either immediately or remotely, making a mortality rate of 4%; the fatality occurred in the eldest patient of the series, seventy-seven years old, the cause of death being a broncho pneumonia, and I feel bears no argument against the measures instituted. The operation was purposely selected as medical treatment had been of no avail and the radiographs show the extreme degree of pyloric obstruction. We have then a mortality rate of 4%, and of cases which survived the operation there has been an improvement or what amounts to a practical cure in all but one case, which gives a rate of 92% cured and the one case which is not included in the cured list has had a recurrent ulcer which was healed by rest and rectal feeding treatment and now really belongs in the cured cases. In reality 96% represent the result of the cases that have had relief to such an extent as to make an operation the most satisfactory of surgical measures. This represents the cases in my own personal experience, and during this time in a number of other cases in which I have assisted other operators only two out of a dozen have had any imperfect results. These two cases are in an improved condition. The symptoms calling for the operation will not be dwelt upon, and it will only be recorded that vomiting and pain which are the cardinal symptoms, coming with loss of weight, have been altered. The gain in case No. 1 amounted to 52 pounds, in case No. 2 to 55 pounds, and in case No. 5 to 40 pounds.

Concerning the operation itself, the posterior, so-called no loop operation has been used throughout the series, it appealing as the most satisfactory operation from the following points: first, no material loop is left or at least much less than is possible by the anterior operation; secondly, angulation of the intestine is less liable to occur than in the anterior operation; thirdly, the parts after the operation are left much more in their normal relationships than after the anterior operation; and lastly the support of the posterior colic omentum can be availed of to take the strain off the anastomosis.

The clamp operation, either the Roosevelt Clamp or the parallel bladed clamps of Willard Bartlett have been used. Recently some effort has been made to do operations without clamps, but I fail to see any advantage in this method and hemorrhage is very, very troublesome. The technic is to use three layers of sutures, and chromic catgut has been used latterly for all mucous membrane work so as not to leave an unabsorbable stitch which could form the nucleus for the digestive substances to crystalize about and form a hardened mass to irritate the tissues and form a new ulcer.

The size and location of the enterostomy opening are subjects for deep consideration. A large opening commends itself and the incision in the walls of the viscera is made as long as the clamps will allow, at least three inches long.

Patterson has a nick marked in his scalpel three inches from the end of the handle, which serves as a measure and so he is assured that his opening is of ample size; but if advantage is taken to have the opening as large as the clamps will allow, no difficulty will be experienced. If the operator measures one of his fingers, usually the middle one, to determine its length, he can use that for a tape-measure at the time of operation.

To stimulate nature as far as possible, the nearer the opening is to the pylorus the better, all other factors being equal.

A study of some radiographs made will present an argument which shows the necessity of separating if possible, cases of scar formation which have healed and contracted; and active ulcers, the main element of which is spasmodic contraction which will entirely disappear when the operation is done, whereas the former contraction will remain.

If scar formation is present and the opening is placed far to the left of the stomach and no opening is at the pylorus, a blind pouch is formed in the right end of the stomach into which the motility forces the food and constantly tritulates it and it can only escape by return to the enterostomy opening. Finally when the stomach empties in the upper segment, food is

retained in the lower segment over long intervals, and due to the retention, irritation and decomposition take place, and this is a causal factor of secondary ulcer, and is the causal factor, I believe, of two of the unsuccessful results which I have seen. In both of these cases bismuth could be shown retained in the terminal pouch over a prolonged interval. Therefore, if no active ulcer can be determined and scar formation is the cause of obstruction, be over-sure to have the anastomodic opening as far to the right as possible.

I have proven by the radiographs that this retention can follow a gastroenterostomy, and it appears to be an argument in favor of the pyloroplastic operation advanced by Finney, but which has not achieved the popularity it would seem to deserve. The cases I have seen have not been as successful as those reported by the author of the operation, but it may be a question of improper technic of the operators who have tried to imitate Finney.

This operation you know, brings duodenum and pylorus together over an area of three inches in reality makes a lateral anastomosis between three structures.

A study of the stomach after a gastroenterostomy is interesting to determine what are the beneficent effects of the operation. We have studied all the cases with the screen, and increased rate of emptying of the organ is the cardinal feature. The speed is probably twice as rapid as normal. Besides this increased speed of emptying the peristole function of the organ is again reduced to normal in the cases where it has been lost. Peristole you know, is a second function of the stomach essentially different from peristalsis and is the power of the stomach to contract about the food and overcome the forces of gravity.

The operation has been called a drainage operation but it is not entirely so, as the muscular powers of the stomach take up part of the work which they have been unable to do and so it is more than drainage.

The beneficent effects of the rapid emptying of the organ are apparent as the food does not stay in contact with the diseased area over such a long period. I feel that when much of the confusion now about these subjects has been cleared, that spasmodic contraction with an attendant ischæmia of the affected part will be appreciated as the great causal factor of retarded healing of ulcers, and this spasm is due to the irritation of contents which are disturbing from their own mechanical consistency or their high acidity.

A series of test meal analyses in these cases after operation show always a dropping of total acidity and free hydro-

chloric acid to a point for below normal. Let me cite some concrete examples:

Case 1: Before op. T. A.	86	Free H.Cl. 56	March 7-12.
After op. T. A.	42	Free H.Cl. 27	Oct. 7-14.
Case 2: Before op. T. A.	87	Free H.Cl. 54	
After op. T. A.	14	Free H.Cl. 0	
Case 4: Before op. T. A.	62	Free H.Cl. 42	March 9-1913.
After op. T. A.	18	Free H.Cl. 0	Jan. 24-1915.

and other like examples could be given.

Thus with the diminution in the hyper-acidity which is a feature of any case the source of irritation of the surface is removed and spasm ceases to occur. Then the diseased area receives its proper nutrition and healing can begin to take place.

Another result of the operation which I believe so far has not been recognized is its result on a fasting stomach.

An important causal factor of ulcer is the retention of highly acid gastric juice in the fasting stomach, this is the result of three factors; 1: the ulcer acting as an irritant to the stomach gives rise to a hyper-secretion with excess secretion which is not alone present during the digestion period but also in the intervals when the organ should be empty. Now add the second factor of a pylorospasm near the outlet and you know that spasm is an almost constant concomitant of ulcer and then the gastric juice is retained in the stomach and acts as a constant source of irritation. The more the irritation the greater the spasm and the hyper-secretion. At once with the making of a gastroenterostomy the fasting stomach is freed of this source of irritation as spasm cannot entirely close the anastomosis as it has no sphinctic function. Also spasm at the outlet ceases. So two factors continuing the ulcer are eliminated, and with the disappearance of the spasm the ischæmic area gives way to normal circulatory conditions.

Diagnostically the presence of gastric juice in over thirty centimeter quantities in a fasting stomach together with the determination by the lactose meal of digestive hyper-secretion is one of the safest clinical signs in the diagnosis of ulcer. Gluzinski's meal is also diagnostic.

It need next be reported the complications in the series of twenty-five cases. The complications can be divided into those which were immediate and those which were remote. There were four immediate complications and one remote. The immediate complications were 1: Hemorrhage. It occurred in case No. 5 and the onset was thirty-six hours after the operation and its intensity was extreme. It required twenty-four hours to get complete control and there was evidently some loss of blood over several days more. It is a question whether

the bleeding came from the line of incision or from the ulcer, and it can never be finally settled, but from the taking of mucous membrane stitch only one sixteenth of an inch apart and every one being looped and no other case presenting the complication, I think the case can be attributed to the ulcer itself, which in this case was freely handled, as a number present were desirous of examining the diseased area. This case has taught me a lesson and since then in all operations great care is exercised to touch the diseased area as little as possible.

The second immediate complication was Hyperemesis in case 15, dwelt upon in another part of the paper.

The third was an abdominal sinus in case 25 also to be considered later.

And fourthly broncho-pneumonia in case 14 spoken of early in the paper.

The only remote complication was a recurrent ulcer in case No. 1.

Just a word here about bandages after the operation:— Avoid tight bandages, they constrict the motility of the diaphragm and render the circulation through the chest sluggish and thus cause a broncho-pneumonia or true lobar pneumonia. Use no bandages other than adhesive straps over the dressing. This allows free motility of the lower points of the lungs and counteracts any tendency to stasis of the blood and secretions in the basis of the lungs.

The dietetic principles followed after the operation should be carefully laid down and obeyed. The gastroenterostomy opening is in my opinion at once water tight and if necessity requires can be used immediately, food of a fluid nature being given as soon as the patient is conscious. In the earlier cases the error was made of allowing the patient to have meat too quickly and in the first and second cases evil results followed at once after meat was taken on the seventh and ninth days. Vomiting ensued which in both cases was quite rebellious. Since these cases it has been our rule to withhold all meat for three weeks after an operation. Similarly animal broths were not tolerated well. It is my belief that they raise the gastric juice to a high degree of acidity and this causes irritation.

However, as it is the exception which proves the rule so in case 15 where vomiting continued despite the most careful dieting along the principles outlined, and at last in desperation expressed meat juice was given, and from that moment when such diet was installed, the vomiting ceased at once. But in general, avoidance of proteid food should be insisted upon.

J. T. Case of Battle Creek in his studies of ileal stasis and the problems of the ileocæcal region, has demonstrated to

his satisfaction that beside the function of the ileocæcal valve in preventing reflux in content from the large into the small intestine, there is also a valve-like power of the terminal four inches of the ilium which likewise aids in the valve function of this portion of the intestine. So at the pylorus in health we have a valve competent to prevent the return of the chyme into the stomach and likewise a thought has occurred to the author: if nature in the formation of the duodenum has not in some measure aided the prevention of the reverse flow of the intestinal content. Firstly, the marked angulation at the junction of the first and second portion of the duodenum makes a point of resistance difficult to overcome, and secondly the shape of the duodenum with its water-trap-like arrangement may have an action very similar to the function of the terminal ilium. The three guardian functions are lost when a gastro-enterostomy is performed and some of the value of the operation arises from this fact; but likewise a point of difficulty occurs and that is the ease with which reverse peristalsis can occur, and when these cases become constipated this result ensues and vomiting arises. Thus constipation is a most frequent cause of vomiting. Always keep the bowels well opened in these cases. Repeated fractional doses of calomel followed by a saline at first, with small doses of calomel daily prevent this result. And second to this and I doubt if it is second, the use of pure Russian Mineral Oil for the same good results. There is a report by A. L. Benedict in the April, 1914 *Journal of Gastro-Enterology*, who states the excellent results in the treatment of ulcers with this oil in cases where no operation was performed; and here it is of additional avail, being not alone soothing and healing to the ulcer, but aiding in overcoming constipation; one of the prominent causal factors of vomiting.

Keep the bowels open.

Case 22 is an interesting one as it is the only one of our series of four hundred radiographic examinations of gastric disease that shows a penetrating ulcer. This ulcer had perforated all the coats of the stomach save the serous coat and causes this to distend before it like a toy balloon. The frequency of appearance of a perforating ulcer is rare, only one case of it occurring in our examinations.

To say that the patient's condition is critical is stating it far too mildly, for only a thin veil hangs between him and death. The tight rope walker is a far better insurance risk than this individual when these plates were discovered; no time was lost even though the clinical history of the case was mild; he having been in the medical wards of Cumberland Street Hospital for some time over a month. The operation

revealed just the state of affairs the picture presents, and a posterior gastroenterostomy was done with infolding of the ulcer. This is exactly the type of case that would lend itself to excision of the ulcer by cautery at a dull red heat to destroy all the diseased tissue. The gastro hepatic omentum has been freed previously and then the mucous membrane sewed with chromic catgut and the serosa turned in with interrupted silk and then the gastro hepatic omentum used to cover over the site of operation. The technic was reported by Donald C. Balfour. (Nov. Sg., 1914, Gyc. and Obs.) This is the latest thought in operations on ulcer and demands attention. First as it destroys any tendency to malignant degeneration and also renders hemorrhage a less liable complication, as the cautery at dull red heat is the most reliable hæmostat. In mere infolding of the ulcer nothing is done to prevent hemorrhage and the mere handling of the viscera may bring on a most severe loss of blood as in case 5 of this series already cited.

This case was operated in July 1914. Healing by primary union. Patient out of bed in ten days and no distress of any kind since. The dieting of this case has been most careful to insure of complete healing taking place.

The percentage of perforation cases in this series has been three, two of which recovered and one of which died. This makes the proportion of perforation cases 12% and the mortality of this 33%. The whole question in a perforative case is the speed with which the case is operated. The recovery rate being high in the first six hours and rapidly becoming less and less favorable until after twenty-four hours it is nearly 100% fatal.

With the first appearance of the operation of gastro-jejunosotomy, the operation was considered complete in itself, but after a time the appearance of a few bad results caused some thought, and with the aid of radiographs it was determined that in these bad cases the history was as a rule improvement at first followed by a relapse of symptoms. In most of these cases it was discovered that food was again passing in the main through the pylorus and the gastroenterostomy opening was not functioning. The hypothesis at first produced was that with the healing of the ulcer the gastroenterostomy opening closed and the stomach functionated as before and the old conditions of high acidity returned and rendered favorable the appearance of fresh ulcer.

With this idea in mind the surgeons turned about to make closure of the pylorus permanent at the line of operation. A paper itself could be presented on the various technics of operations devised for this purpose. Bartlett excises a portion of tissue on a metal skewer and then sews it over and over.

Finney I am told, simply makes a purse string suture of unabsorbable material about the pylorus.

Brewer has devised an aluminum band to be compressed about the pylorus, and various other measures have been presented to attain the same object. The latest being a strip of fascia or the round ligament of the liver (Murphy).

In my series but one occlusion was attempted and that in case 22; here a purse string suture of Pagenstecher was thrown about the pylorus and drawn tight. It cutting its way in would provoke adhesions and would remain itself long enough to occlude the lumen. No untoward results of the operation.

However after sober consideration I believe that the cause of the failures was due to an ulcer occurring at the line of suture of the gastroenterostomy opening and resulting in contraction in its healing, or else a too narrow opening was made, and as we must realize that the mucous membrane must heal by granulation as primary union in these cases must be out of question with the healing of the ulcer on the granulating surface a narrowing of the new opening occurred and perforce nature must resort to the old avenue.

I am convinced that occlusion of the pylorus will not be a permanent feature of these operations and that with a large stoma with edges most carefully approximated the complication will be less frequent in its occurrence.

Another case of interest in this series is No. 21. Nine years ago he had a perforation of an ulcer and was operated upon and the point of perforation closed, but due to his critical condition no other operative work was done. When I saw him in consultation with Dr. Shuttleworth of Richmond Hill, he was vomiting a basin full probably one and one half quarts of coagulated blood, and his stomach showed visible peristaltic contractions.

Operation which was advised, revealed almost no adhesions other than just about the site of the perforation which was just below the pylorus in the duodenum, the remainder of the stomach was free but dilated to a considerable degree.

A posterior gastroenterostomy was readily executed and despite the exsanguinated condition of the patient, healing by primary union was the reward.

I consider, however, that this case with the recurrence of an ulcer is but one of a series of cases which cry out loudly against attention at operation being given the ulcer by infolding or excision and no further operative procedures being executed. In removing the ulcer itself, none of the causal factors have been assailed, and allowing the healing of this particular ulcer takes place a new formation of further ulcers is distinctly

predisposed and will occur and the patient will before long have the same dilemma to face again.

Where a posterior enterostomy is done the whole chemical and physiological functions are altered and the causal factors are removed and no further ulcer can occur. Therefore, at the operation on a perforative case, if by any chance the condition of the patient will allow it, make an anastomotic operation as well.

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## BORDERLAND MENTAL STATES

By BARBARA T. RING, M.D.

By borderland states of mind are meant those states which though permitting individuals, in a measure, to adapt themselves to their environment and to conduct themselves in a manner reasonably acceptable to society, yet evince such mental instability, such alteration or conflict among the various attributes of mind that a slight push topples them over into the insane group. They still possess fair volitional control of their acts and retain some insight into their peculiarities. These facts differentiate them from the insane.

To illustrate: A young woman of 20 suddenly decides that she cannot longer remain at home and that she must kill herself. She is removed to a hospital where in great distress of mind she passes nights of wakefulness. At intervals she screams loudly, rushes into the hall in her night clothes and begs the nurses to prevent her from throwing herself out of the window. She was seen by several able alienists who disagreed as to her sanity and the need of restraint and was, for the sake of her own safety, formally committed to a hospital for the insane.

The patient was a large, loosely knit young woman with stooping shoulders and protruding abdomen. She came of a markedly neurotic and erotic family and had grown up in an atmosphere of domestic friction and poverty. She had early learned to keep her thoughts to herself (repression). Of an imaginative and illogical nature, she had constructed for herself out of her narrow and warped experiences a conception of life which was at variance with her innate ideals (conflict). She had known no environment other than her home and the confines of the town in which she lived and decided that life was not worth living. It needed but the additional push of a bitter family quarrel to prove to her the correctness of her conclusion and thereupon her hysterical personality asserted itself. Volitional control and insight were for a time lost and she was insane. It only required removal to a new and wholesome environment, however, with careful analysis and explana-

tion of her condition to restore self control and make her sane. She was still unstable and dreamy but normal enough to earn her living and to maintain a sufficient degree of mental poise to conduct herself in accord with the demands of society. She was not strictly normal because she was still unhappy, self-analytical, and suffered both from insomnia and nightmare. Her mental errors were undoubtedly reflexes from an irritable sympathetic nervous system and have been gradually corrected by the application of supports and exercises to correct her faulty posture and so relieve the kinesthetic sensations arising from the strain of the unequal pull of opposed muscles and joints.

This case illustrates the hysterical type of mind depicted by Janet and later by Freud who has given us the terms repression, conflict, etc., and has shown that by careful psychoanalysis and mental catharsis the patient's mental state may be determined and helped. By pointing out in conversation the illogical train of thought, a more wholesome and practical mental synthesis was formed by the patient. It is interesting to conjecture whether or not it is possible that the same lack of musculo-neural balance which gave this girl her postural disturbance did not extend to the higher neural mechanism (arcs) and so produce an unequal mental strain among her psychic factors resulting in her "loosely knit" mind.

Another case is that of a woman now 55 years of age. At school she was said to be queer, she married at 20 and has since been eccentric. Physically she is an unusually well formed, stocky, muscular woman and to the casual observer is mentally normal. In the presence of strangers her behaviour is conventional and affable, but in her home for years she has manifested a capricious and moody temperament, often acting impulsively and in a most unaccountable manner. In spite of this fact her daughter, a college graduate and now married, considers her mother normal. Some 15 years ago the patient became conscious that her clergyman was making her do his bidding by mental suggestion which she received as "air-wave thoughts." At first these were simple and benign, but later at times were "diabolical." About six years ago she says that the minister got tired of this mental conflict and transferred the control to another and stronger man with less moral principle, who has absolutely controlled her, dictating her acts through "air thought-waves." These wave-thoughts have become so exasperating that of late she has demanded written apologies from the minister and the young man. Until these outward breaches of conduct, however, no one except her husband knew of her delusion of persecution. She has been growing more arrogant

and self assertive and progressively more irritable under criticism and restraint. However, she still conducts herself with fair decorum and shows no psychic deterioration.

This case is an unusually pure type of Paranoia. Tanzi says, "Paranoia is a rare form of constitutional anomaly which remains latent for years and manifests itself in mature age in a partial but most persistent delusion which is only the slow and permanent triumph of a perception. This perception gradually conquers all evidence to the contrary—and becomes organized into a co-ordinate system of errors which become the tyrants of the intellectual personality. On the other hand, the presence of a circumscribed delusion does not disturb the individual's judgment on other subjects."

For years this woman has been on the borderland of insanity in that her outward behaviour has been acceptable to society and it was not until she lost volitional control that she could be said to be insane.

This case contrasts sharply with the first one; in the former the mental disturbance was primarily in the instinctive or affective mind, the imperative acts growing out of extreme lacerations of feelings (conflict). The disturbance in the latter case is limited to the intellectual or associative mind, the emotions remaining intact. Here the irrational acts were the direct result of a deliberate, though erroneous judgment, which together with the increasing egotism and self-assertiveness ultimately resulted in a decision to brave the opinion of society and act upon an opinion which she believed unassailably true. Her acts were not, therefore, true impulses though often impulsively performed. True impulsive acts are always spontaneous, unreasoning motor outbursts, the result of an intolerable, emotional conflict.

This woman has never had insight into her mental obliquity because it was part of her birthright. She had no previous former mental standard with which to contrast it but she knew that others did not think as she did and was able outwardly to conform to custom and in this sense she may be said to have evinced that insight of which she was capable and thus falls within our definition.

These cases present at once the most extreme and most antithetical types of the borderland between sanity and insanity in the affective and in the intellectual spheres. But in both of these fields there are all manner and degree of mental deviations which though they rarely carry the patient into the actually insane classification none the less stamp them as peculiar, erratic or subnormal. Among these states those of neurasthenia (postural neurosis) and psychasthenia are the most definite but

the mind may have deviations from the normal in any of its separate factors which so distort its outlook on life and pervert its act as to render the individual odd. For example, one's primary perceptions may be intact, that is the lower sensory reflex arcs may be normal but one's highest association arcs may be illy formed giving inferior apperceptive arcs so that the meanings of the perceptions are erroneous, resulting in faulty reasoning and judgment. Memory may be disturbed either in its registration, conservation or reproduction resulting in a variety of mental disturbances, hysterical in nature, of which amnesia is the starting point and a variety of disturbed emotional states the result. For example, a young woman has epileptiform attacks when she approaches the stairs each day after dinner. She cannot give any reason and is considered very ill. On careful questioning in a relaxed, quiet state of mind she finally recalls that she had some years before visited a theatre where she was greatly attracted by the leading lady. After the show she went to the hotel dining-room and soon the theatrical company came in also. She fixed her eye upon the leading lady who shortly rose and started to go to her room but on reaching the foot of the stairs screamed and fell in an epileptic fit. The patient was amnesic for the incident until she was made to recall it by artificial aid when the fits stopped. In this case memory registration and conservation were normal but reproduction — the ability to bring the experience into the focus of awareness was lost.

Many states of fear or phobias are the direct result of inability to recall the original exciting experience while certain stimuli which were its contemporary associates call up the emotional state both mental and physical producing a sense of terror for which the victim can find no explanation. So necessary is it for most minds to have an explanation of feelings that erroneous reasons are frequently assigned which makes the work of the analyst doubly hard, calling for keen discernment and acumen.

Blockings or inhibitions of memory cause a variety of deviations of the personality which result in a variety of disturbed mental pictures. These blockings may result from actual trauma as in the case of a young man who was in charge of a suburban telephone office. An electric light bulb exploded in his face blotting out about seven preceeding years of memory (traumatic retrograde amnesia) so that he had to take a subordinate position and learn his work all over again from those whom he had taught. Still another form of blocking may come from emotional shock and it is probable that some bio-chemical disturbance in the physical economy may do the

same thing through a toxemia. This seems to be the only way of accounting for those cases in which a person, suddenly and without apparent reason, becomes transformed by a new personality and takes up an entirely different mode of life and thought.

The quality of attention is perhaps the mental attribute upon which can best be based an estimate of the efficiency of a mind. The person who can persistently attend to a given task especially amid distractions and when diverted can come back to it until it is finished, possesses a mental quality which other factors, emotional and intellectual, being equal practically insures success. Attention in borderland cases may be greatly disturbed from emotional causes producing confusion and distraction or its sustaining quality may be greatly reduced from over fatiguability due to purely physical factors as will be shown in discussing neurasthenia. As a natural corollary of this — efficiency is rarely good in these patients, is frequently reduced to the point of rendering them incapacitated for normal duties and often making care and treatment necessary. As we have said the majority of these cases fall diagnostically under the class of neurasthenia, psychasthenia or hysteria.

Neurasthenia has been much talked of in the past as a disease entity but the word has gradually become an adjective. It is a short cut to describe a train of symptoms — fractiousness, irritability, self-centeredness and above all abnormally rapid fatigue which develops upon slight exertion. The neurasthenic persons are those whose whole nervous system is poorly energized, whose dynamo does not supply current enough to keep all their neural lamp filaments glowing brightly in a sustained manner. As an accompaniment of this lowered energy and possibly as a cause, it has now been shown that practically all of these persons have faulty postures due to inadequate muscle tone either innate or acquired, from careless habits of standing, sitting and walking. Commonly they have some displacement of the abdominal contents which renders the transformation of food into energy as well as its proper elimination faulty. Attention in neurasthenics is narrowed and focused upon the self and its discomforts because these are constantly forced into attention by their vividness. They talk at length of their feelings and because these are painful (a neuralgia of the feelings) they have a depressed emotional content and are apt to be morbid and moody.

Psychasthenia, on the other hand, cannot, as a rule, be attributed to physical causes but is more distinctly an asthenia of the psyche. It is more commonly found associated with vascular and cardiac disturbances or with a narrowed chest and

feeble respiratory organs which suggest poor oxygenation. The mental characteristics of psychasthenia are the presence of obsessions, impulsions and phobias.

Obsessions are imperative ideas which dominate the individual and determine his acts in spite of the fact that he has insight as to their ridiculous nature. There is a lowered power of voluntary control for these acts and if control is excited such mental tension and friction results that the victim has to resort to the acts again to obtain comfort. Thus a person has to wash her hands continually or for several hours a day, or get out of a particular side of the bed or put on one shoe first or else she is miserable. Freud has shown that these obsessions are symbolic of some emotional content buried in the unconscious mind; that hand washing is the result of a forgotten experience which the person had at some previous time in which the idea of dirt or filth was coupled with an emotional shock, probably of a sexual nature.

Impulsions are senseless acts which the individual is forced to commit in spite of his judgment to the contrary. He must step on every other brick on the sidewalk or go around a certain tree, etc.

Phobias are fears for which the person can give no adequate reason. Indecision and doubt are also typical of the psychasthenic mind and lead to many useless acts—as the repeated return to see if he locked the door though he knows that he did. Here again there is a marked narrowing of the field of consciousness but in this case rather because attention is directed to his fears and obsessions than because of bodily discomforts.

It will thus be seen that borderland cases include those persons who though not insane cannot be considered normal and that they furnish the best possible proof that mind is but one of the bodily functions and absolutely dependent for its normality upon the harmonious working of the whole organism.

Any of these cases may under unfavorable conditions run into a state of incompatibility with society which would place them in the insane list.

## OBSERVATIONS WITH THE MEDICAGO SATIVA

By ALEXANDER L. BLACKWOOD, A.B., M.D., Chicago, Ill.

Synonyms; Alfalfa, Spanish Clover, California Clover and Lucerne.

This is a leguminous plant. It has been cultivated from ancient times and is highly prized as a pasture and forage plant. Those who have observed its influence when employed as a forage for stock must have been impressed with the favorable results obtained from its use.

During the past year observations were made of the action of alfalfa on seventeen persons, most of whom were students in the Hahnemann Medical College of Chicago. In the proving the drug was used from tincture to 30x. No definite symptoms were developed, however, above the 3x. It was noted that several provers complained of severe abdominal distress when more than five drops of the tincture was administered every three hours. Although two took as high as twenty drops every three hours they had no symptoms apart from an increased appetite and an increase in the quantity of urine. All of the provers except one noted three things in particular, an increased appetite, so they could not wait for the regular meals, an increase in the amount of urine and urea, and a general sense of well-being. Clinically, in small doses, five drops of the tincture, it controlled polyuria with loss of appetite, caused an increase in weight, and allayed the irritation from an enlarged prostate.

The composition of the hay is according to the United States Department of Agriculture:

Water.....	8.4 per cent.
Ash .....	7.2 " "
Protein.....	14.3 " "
Crude fibre .....	25. " "
Nitrogen free extract.....	42.7 " "
Ether extract (fat).....	2.2 " "

I am indebted to Boericke and Tafel for the medicine used and to Ben H. Huggins of the laboratories of the Hahnemann Medical College, Chicago, for the following report:

Following is the report of the Alfalfa effects on the guinea pigs.

They had one C. C. of an infusion twice daily and the following points have been noted:

1. The pigs apparently are very fond of the alfalfa since they *take* the same without offering any resistance.
2. They cry for food and water and since taking the alfalfa they eat twice the amount of food that the other pigs eat.

3. They drink much more water than the pigs not getting the alfalfa.

4. Those fed on the alfalfa apparently pass more urine than those not getting the alfalfa.

5. The bowel excretions of the pigs fed on it are softer and more waxy than the excretions of those not fed on alfalfa.

6. The alfalfa apparently acts on the intestinal mucosa as a laxative and on the epithelium of the kidney as a diuretic.

#### PATHOGENESIS

Mind:— Clear and bright; good for the blues which it seems to prevent while taking it. Makes one rejoice to be alive. All bodily functions seem to be stimulated. Under large doses the provers feel sluggish, drowsy, dull, stupid, irritable, worse during the evening.

Head:— Pain in the left side of head. Dull heavy feeling comes on about 2 P.M., and gradually increases till 6 P.M., starts at the occiput and becomes severe.

Eyes:— Aching in and above the eyes.

Ears:— Eustachian tubes closed at night but clear in the morning.

Face:— Flushed.

Appetite:— The appetite is greatly increased, and the prover appears to digest the food well. Desire for sweets. Hungry all the time and eating much more heartily than at other times. Sensation of hunger at all times. Appetite is increased. Sometimes ravenous; must stop and have something to eat in the middle of the morning. One prover says, "I regularly eat a light breakfast, but have been able to eat more for breakfast than usual. A similar increase in appetite for other meals. Digestion very good. Although more food is eaten it is all digested nicely and causes no distress. Normally I over eat for two or three meals, I feel filled up and stuffy and lose my appetite and only care for bread and lemonade for a meal or two. But under this remedy I eat extra bread at every meal."

Another prover seemed to have a little wind colic occasionally. There were sharp pains which would come and go generally about three hours after a meal. Did not have belching of gas up or down, however.

Abdomen:— Abdomen distended with flatus in the intestines, pain in the line of the colon. This was recorded by seven provers.

Stools:— Diarrhea, painless, yellow, accompanied with flatus and attended with burning. Stools loose and more fre-

quent than usual. Two or three times daily. I am usually constipated.

Urine:—Marked increase in the quantity. Indican increased by large doses. Phosphates increased.

One prover says, "I took the specific gravity and urea percentage every day while taking the medicine. For several days the specific gravity was 1.010 and the urea 15 grams per liter. These figures gradually increased until after taking it for about ten days and then the specific gravity was 1.020 and the urea 25 grams per liter. These figures were sustained for several days and then dropped to about 1.015 specific gravity and 20 grams per liter of urea. I was taking increasing quantities of the medicine when these high figures were lowered. Whenever previously examined my urine has been very low in total solid content, and these figures show the largest renal elimination I have ever had."

Female:—Increased desire. Menstrual period came exactly 28 days. Had been coming three and four days ahead of time for past six months. Did not notice any difference in the flow.

Sleep:—Sleep very good. Better than usual in early part of night.

#### CLINICAL CASES

Mr. D., aged 41, a chief clerk in the general offices of one of our railroad companies had complained for several months of losing flesh. His appetite was poor, he did not relish his food. There was present an abnormal thirst, a loss of flesh, and polyuria. The quantity of urine for twenty-four hours was eighty ounces, specific gravity 1.008. Nothing abnormal apart from an excess of indican. The prostate was enlarged and sensitive to pressure. He complained of some irritation upon urination. Five drops of the tincture was prescribed four times a day. After two weeks he sent a messenger for a supply stating that it had greatly benefitted him. He called at the end of two months having gained ten pounds, the urine at this time was practically normal in quantity, the appetite was fine and he considered himself in a normal condition.

Mr. G., aged twenty-nine complained of a loss of weight and appetite, excessive thirst, polyuria and mental depression. This syndrome had been gradually developing for the past year. Physical examination showed a man of medium size, emaciated, heart's action weakened, blood pressure lowered, stomach slightly dilated, prostatic portions of the urethra hypersensitive. The urine was greatly increased in quantity and of low specific gravity. Free from casts and albumin; the phosphates were increased. Five drops of the tincture before each meal and on

retiring relieved the condition so that in three months he considered himself well.

I am indebted to Dr. Finley Ellingwood for the following excerpts:

A physician having observed the active influence which this exercised on the kidneys, occasionally dug roots and made a strong tincture which he administered for diuretic purposes. In his experiments he increased the dose from a few drops until he obtained a diuretic influence. Prescribing it in a case where there was a dropsical effusion of the extremities with kidneys inactive and skin dry, he obtained good results. Administered for old men, he found it relieved the irritation and frequent inclination to urinate.

Dr. Houts gathered the fresh leaves preferably, but obtained good results from the use of dried leaves which still retain a green color. Of these he made an infusion and gave freely to patients suffering from backaches, especially if they were passing but a small quantity of water while suffering from rheumatic symptoms, or backache with muscular aching, with an excessive quantity of uric acid and urates secreted.

Dr. Ben. Bradley of Hamlet, Ohio, believes that Alfalfa is one of our coming drugs. He reported a case where a woman had seven children born apparently strong and well, but when they reached the age of eighteen years they wasted away and died. When the last girl was taken with the symptoms of which the others had died, Dr. Bradley made a saturated tincture of alfalfa seed concentrated, fully saturated, and gave her ten drops four or five times a day. This is reported to have increased her weight from 99 to 133 pounds. She recovered good health.

Dr. Houser of Lincoln, Ill., tried the same preparation on two or three very thin female patients to see if their weight could be increased but without results.

The late Dr. Fearn of Oakland wrote that its action was very soothing upon the kidneys and urinary apparatus. He believed that it could be prepared for human food to as good, if not better advantage than for animal food. A concentrated tincture should exercise an influence similar to that of *avena sativa*, which has a direct nutritional value in its influence upon the brain and spinal cord. There is without doubt an important field open for this agent.

## PRELIMINARY REPORT ON ONE HUNDRED CASES TREATED BY THE SCOPOLAMINE AND MORPHINE METHOD OF GAUSS\*

By EDWIN W. SMITH, M.D., Boston, Mass.

Twilight Sleep has become such a widely discussed treatment and has had so much space in the lay press, that several well known men have published their results in the hope that the rank and file of the medical profession may winnow from the chaff of hysteria on the one hand and unfair prejudice on the other, the grain of truth and real accomplishment which a fair and unprejudiced trial of the method has given us.

It may be well at the outset to mention some of the mistakes which were made in early experiments with the morphine-scopolamine treatment, notably the H. M. C. method in use some years ago.

Unquestionably there were bad results. The drug was unstable, cases were not individualized, too much morphine was given and the results were long labors, narcotized and asphyxiated babies with enormous caputs, or hemorrhages below the scalp, frequent forceps deliveries, delirium in the later stages, and hemorrhage.

Most physicians who hear the method discussed at the present time and who are not familiar with the Gauss method dismiss the subject with the simple statement that the method was tried out years ago, found wanting and discarded as dangerous.

This paper aims to give briefly the results of the treatment in one hundred cases, the method employed, difficulties encountered, advantages and disadvantages and limitations.

The writer wishes to state at the outset that the cases treated were not selected as easy cases; several of them were taken as bad risks, with the border line pelvis or malpositions, and several elderly primiparae who came from a distance for treatment are included, multiparae with history of previous difficult labors, multiple pregnancies, one case of bi-cornate uterus, and other complicated cases.

In this series also are private house cases, general Hospital cases, and private Hospital cases, taken under all sorts of environment and with inexperienced assistants in many instances.

We have been confronted at the outset with the most obstinate and determined opposition, and it has taken time and work to break down the wall of prejudice which greeted our first efforts. One of our own men whose opinion carries weight, and who later was most enthusiastic over a demonstration on one of his own cases, was one of the most outspoken critics.

One woman told the writer within a few days, that any woman

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\* Read before the Massachusetts Homœopathic Medical Society, April, 1914.

who wants painless childbirth has literally to fight for the privilege, and takes it against solemn warnings from her family physician and all her relatives and friends.

We could have doubled our record of cases treated but for the opposition which we have met and do meet up to the present day. The women themselves have been the greatest obstacle to the successful accomplishment of the treatment, and several of the patients who did consent to be treated, fought the drowsiness as long as they possibly could, rather than assist us.

All this in the face of universally favorable reports from every man who had tried the method faithfully.

Our Hospital is not well adapted for the treatment, as the labor ward cannot be kept quiet, and it is impossible to secure proper isolation and quiet.

The labor room is so situated that it requires four handlings of the patient, with two four-story elevator trips to and from the delivery room, and there is absolutely no means of darkening the delivery room for daytime cases.

All these troubles will be removed when our new building is opened in the near future.

We have had the most efficient and enthusiastic assistance from the nurses at the Hospital and from Dr. Clement and Dr. Noel, two tireless workers and most efficient assistants, to whose efforts most of the successful results are due. Team work has been the order of the day.

#### DRUGS USED

We have used Scopolamine Hydrobromid, Straub's formula, in some cases, and others have had a freshly made solution, gr. 1/200 in each c.c. of distilled water.

Narcophin in three per cent. solution has been used in all cases. The dosage varies with each investigator, but we have used the dosage and repetition learned from Dr. Rongy at the Jewish Maternity Hospital, aiming to carry on our case with the minimum amount of drug, and adapting the dose to the patient.

The Siegal method of standard dosage has not been used.

"You can standardize your dose, but not your patient."

Excluding obstructive causes and in seemingly favorable cases the treatment is started when the labor is surely begun. In primiparae this means five-minute pains lasting forty or more seconds, and in multiparae, when the pains are regular.

That we have chosen this standard wisely is proven by the fact that we have never had to discontinue the treatment because of failure of the pains.

The patient is given a drink of water and told to urinate. This seems wise, as scopolamine is eliminated through the kidneys, and

plenty of water to flush the kidneys helps rapid elimination of the drug.

The patient gets very drowsy and forgets to empty her bladder later in the treatment, so a well emptied bladder is essential at the start. This is really the only trouble which accompanies the treatment and has required the use of the catheter in about five per cent. of the cases treated.

In about twenty minutes the patient is drowsy, flushed and thirsty, the edge is taken from her pains and she feels very comfortable.

The fetal heart is counted, maternal pulse counted, duration and frequency of the pains noted, amount of dilatation present, and the condition of the membranes, whether ruptured or not, recorded when the first dose is given.

All injections have been intra-muscular, in the thick part of the buttock. This does not cause much pain, and infection at the site of the puncture has been conspicuous by its absence.

The initial dose has been one half a grain of Narcophin (1 c. c. of a three per cent. solution) and  $1/133$  of a grain of Scopolamine Hydrobromid ( $1\frac{1}{2}$  c. c. of the standard solution.)

The room is darkened and the patient allowed to go to sleep, all possible light and noise excluded.

At the end of an hour, or earlier if the patient is wakeful, the second dose is given, Scopolamine only, and the dose gr.  $1/400$ . ( $\frac{1}{2}$  c. c. of the standard solution).

Injections are repeated at intervals, varying from forty minutes to four hours, according to indications, until the patient delivers herself, or there is indication for interference.

The patients say that after the second dose the pains are easy, and after the third dose in all but two cases the pains were gone. The shortest successful case received one injection and was delivered in forty-five minutes; the longest was fifteen hours under treatment and received twelve injections. On the average, about two hours were required, with three injections, to produce a satisfactory result.

In one hundred cases, the total number of hours under treatment was five hundred and forty, or five and forty one-hundredths hours for each case five hours and twenty-four minutes.

Consider that this series of one hundred cases consisted of sixty-eight primiparae, and thirty-two multiparae, and the average duration of labor under treatment is hastened rather than retarded.

Analgesia and amnesia were induced in ninety-three of the cases; that is, ninety-three per cent. were successful.

Of the seven failures, five were under dosed, being too far advanced in labor to allow thorough treatment, four receiving but a single dose, and one patient receiving two injections.

Two cases had complete amnesia for hours, but owing to a rush hour in the delivery room, received their last dose at too long an interval and had islands of memory.

We had no cases where the drug seemed to have no effect. Large, dark complexioned women seem to require larger doses, and small, light haired or red haired women were most easily influenced.

About four per cent. had some delirium and used an objectionable brand of language, or required mild restraint. Others had slight hallucinations, apparently of a pleasant nature. Cooking or household duties seemed most frequent topics.

Most of the cases requiring restraint suffered from distended bladder and seemed to feel discomfort, without realizing the exact nature of the trouble.

No hemorrhages were noted and after pains were present in one case only, where the uterus ballooned and some large clots expelled.

The percentage of cases delivered artificially was larger than the usual Hospital average, which was about fifteen per cent. in 1914. This was due to several causes.

1. The percentage of primiparae was twice that of multiparae.
2. Prejudice against the use of Pituitrin in Primiparae. It tends to cause asphyxia of the baby and compression and separation of the placenta.

3. Shortening of the second stage. All cases have virtually been private cases and so treated. Head on the perineum two hours in primiparae and one hour in multiparae has been the rule, and if expression of the head could not be accomplished with pressure on the fundus, low forceps were applied to extend the head, forceps removed and delivery completed normally. Most of the low forceps cases were very easy.

4. Abnormal number of persistent occipito-posterior positions.
5. Multiple pregnancies.

Thirty cases were delivered with forceps. Thirteen or nearly half of this number were easy low forceps cases. Eight were high, and nine were medium forceps operations. The second twin was delivered by version in two cases.

Of the seventeen high or medium operations, one was in multiple pregnancy, seven were persistent occipito-posterior positions, one of these cases having a flat pelvis and one case an hour-glass contraction. Four were simple protracted labors, where the head remained stationary through several hours. One case was an elderly primiparae, one large baby with small mother, one case of masculine pelvis, meconium appeared in the vaginal discharge in one case, one case had a bicornate uterus, and all were difficult.

The perineum was lacerated in twenty cases, fourteen first

degree lacerations and six second degree lacerations. Episiotomy was done to save the perineum in four other cases.

#### COMPLICATIONS

No mother has died. No mother has had infection.

One patient developed an ischio-rectal abscess.

One patient was suffering from pyelitis when delivered.

One patient had an acute appendicitis during her convalescence.

One developed a breast abscess three weeks after leaving the Hospital.

#### EFFECT ON THE BABIES

Two were stillborn and macerated; no fetal heart sounds heard and no movements felt for several days before delivery. One had history of an accident and the other had a four-plus positive Wassermann reaction. Four babies died in the first twenty-four hours; three from patent foremen ovale, verified by autopsy in two babies, and one of congenital malnutrition.

Three died in the first three months, one from pneumonia after leaving the Hospital, one twin from malnutrition on the thirtieth day and one baby from congenital dextro-cardia on the forty-first day.

Seven per cent. of the babies were apparently affected by the drug, but breathed after a little delay. In no case where we started with a living baby, was there a failure to deliver a living baby.

#### CONVALESCENCE

Convalescence has been rapid in nearly all cases and follow-up reports show that the health of the mothers has been excellent.

Three women have complained of vague symptoms of prickling or numb feelings in the legs which examination has failed to verify.

No case of psychosis or mental disturbance has been noted.

The face is flushed and pupils dilated for twenty-four to thirty-six hours after delivery, and that is the only trouble.

Morbidity during convalescence has been very slight.

After-pains have been absent.

The patients without stitches have been allowed on the fourth day to get up to the cabinet for movements. Otherwise the after-care has not differed from the ordinary case.

#### CONCLUSIONS

Most of the failures were due to the patients receiving only one dose and being delivered before it could take effect.

Mothers do not die, and in no case where there was a living baby when treatment was begun have we failed to deliver a living baby.

Hemorrhage is a rare occurrence.

The secretion of the milk is better on account of the absence of fatigue, and the convalescence of the mother is usually better and involution more rapid for the same reason.

That while the expulsive stage is somewhat lengthened, labor as a whole is shortened.

That the secretion of urine is rapid and that the bladder needs watching.

That the dangers attending the treatment are largely imaginary, but that a reasonable degree of intelligence and much care is required.

That the drug must be pure and in standard solution.

Careful observations must be made of pulse, respiration, and fetal heart sounds.

Prolonged second stage should be avoided. Two hours, perineal stage in primiparae, and one hour in multiparae, should be the rule, with earlier interference if indicated.

That there is much less nervous and muscular exhaustion than usual in the same class of cases after ordinary labor.

That after-pains are almost never present.

That the number of artificial deliveries could have been reduced one half by the use of pituitrin; but that low forceps operations are attended with less risk to mother and child. Asphyxia, dangerous compression of the child, and hemorrhage are apt to occur with pituitrin.

That ninety per cent. of cases treated should have a satisfactory degree of amnesia and analgesia and that failures are due either to poor technic or to insufficient time to allow action of drug.

That if the amnesia is not complete, the first stage of labor is much shortened, dilatation is much quicker and the patient is spared the slow, agonizing pain of the dilating stage.

That while the second stage is somewhat lengthened, labor as a whole is shortened.

That the babies are not influenced unfavorably.

That the method has infinite possibilities, which are worthy of fair and unprejudiced investigation.

In conclusion, the writer wishes to express his thanks to Dr. George D. Bliss and Dr. William A. Ham, through whose courtesy the experiments were made.

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## A FEW OBSERVATIONS AND CONCLUSIONS FROM THE OBSTETRICAL WARDS OF THE MASSACHUSETTS HOMŒOPATHIC HOSPITAL\*

By HAROLD E. DIEHL, M.D., Physician, Board of Health, Quincy, Mass.

The purpose of this short paper is not to present any new conclusions on any one subject in obstetrics, nor to present the results of speculation or experimentation. The statistics herein set forth are derived from three services in the Obstetrical Wards of the Massachusetts Homœopathic Hospital, embracing 767 cases, most of them under the personal observation of the writer. The object of the paper is to present anew some old obstetrical axioms, sometimes considered shop-worn, or easily forgotten, and to show by the variety of cases handled, both usual and unusual, and by successes accomplished and errors committed, both the need of thorough training and skill of the general practitioner, and some ways in which the present methods of obstetrical practice may possibly be improved.

It may be interesting to note, in the beginning, certain statistics relative to *foetæ* presentation and position. Out of the 767 cases it was possible to determine position in 752. The other 15 were unaccounted for by reason of a precipitate labor or a hurried trip to the hospital, by premature birth, etc. Of these 752 vertex presentations occurred in 96% of cases, breech presentations in 3.85%, shoulder presentation in one case out of the 752. Of the vertex cases 580 or 80.7% were left occiput anterior; 97 or 13.5% were right occiput anterior; 35 or 4.9% were right occiput posterior; and 7 or .9% were left occiput posterior. Two cases were of face presentation with the chin fortunately anterior, and one case was a brow presentation, also anterior. The percentage of vertex and breech presentations agrees almost identically with the recorded average percentages of their occurrence. The left occiput anterior position was found in approximately 10% more than the average, and the right occiput anterior in 3% more; while the right occiput posterior occurred in about 13% less of cases than is usual. In all these figures it must be borne in mind that the positions are determined in a rather large number of cases by internes who oftentimes do not take time to determine them accurately or who may be rather uncertain in their obstetrical observations; and also that many cases with the back of the *foetus* fairly well around to the mother's back on the right are classed not as R. O. P., but as R. O. A., unless the small parts be very definitely to the front and the other signs of the posterior

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\* Read before the Annual Meeting of the Alethean Club, February 14, 1915

position be well defined. In pelvic presentations the sacrum left anterior position obtained in 16 out of the 29 cases, the sacrum right posterior in 4. The opposite direction of obliquity prevailed in the remaining 9 cases, the sacrum right anterior in 7, the sacrum left posterior in 2; a condition analagous to that mentioned in connection with that of the R. O. P. position.

Twelve cases have been of the precipitate type, mostly in multiparæ with large pelvic measurements, all progressing favorably and with no injury at time of birth. Prolapsed cord occurred in two cases, both of breech presentation; reposition of the cord failing, delivery was hastened and both cases terminated favorably with no ill effects to the baby or mother. Six cases of still-birth are recorded, exclusive of 10 other cases of macerated foetus. In the latter where there was a history of previous miscarriage, still-birth, or macerated foetus, a Wassermann test was taken with positive result in each case. Two of the cases of still-birth were foetal monstrosities of no more than usual interest.

What has proven to be a most valuable feature of the work have been the ante partum examinations. As is well known, so far as is possible, pelvic measurements, general observations of the patient, and urinary analyses have been made in nearly every case and records of the same filed away until the patient comes to the hospital. While this fact is well known, but few outside realize the inestimable value to the physicians in charge. We are firmly convinced that many women who would have otherwise very probably developed eclampsia have been saved from it by being taken into the hospital and having appropriate treatment applied; that many children now live whose lives would have been sacrificed without a previous knowledge of the size of the mother's pelvis and without proper measures thereby being taken, either by Cæserian section or premature induction of labor.

Cæsarean section has been performed 20 times, that is in 2.6% of the series of cases. Causes leading to the operation were: Placenta previa 4 cases; eclampsia or marked toxemia 3 cases; cases of very definitely contracted pelvis 6; one case (a primipera) with moderately contracted pelvis, in whom there existed myocarditis and mitral leakage sufficiently severe to forbid engagement into prolonged labor; three cases of occiput posterior position in whom measurements were not forbidding but in whom the head could not be made to engage and external rotation to the anterior position was impossible; one case of twins; one case of fibroid uterus interfering with labor; and one extremely interesting case in whom, there being no engagement into the pelvic brim after four days of labor, in spite of no

disproportion of measurements, Cæsarean section was done and a bicornate uterus found with the child on one side of a one inch muscular median septum and a large placenta in the other. Three deaths occurred in the 20 cases, in actual figures 15%; one being the cardiac case who also developed peritonitis; the other two being among the six cases of contracted pelvis, one dying of general peritonitis, the other of acute dilation of the stomach.

The consideration of Cæsarean section brings up the question of high forceps versus Cæsarean and the matter of instrumental cases in general. There have been in this series one hundred and one instrumental cases and seven internal podalic versions. Of the 101 instrumental cases 46 were classed as low, 25 as medium, and 30 as high forceps operations. Record of the condition of the perineum has been found in only 71 of these cases, 33 being intact, and 38 being torn in any degree from a very slight first degree to a few cases of third degree tears. Twenty of the 31 cases of high forceps operations are classed in this regard — 11 cases resulting with the perineum torn in greater or less degree, and 9 cases intact. Thirty cases out of 101 then are not classified in our records as to the condition of perineum at time of delivery, these records being of course dependent upon the interest of physicians having private cases as well as upon the zeal of the interne. An effort is being made continually to develop in the internes an interest to save the perineum. For the most part there has been an excellent response and we believe the results obtained justify the efforts expended. Considering our results with high forceps operations (of which, by the way, the percentage is rather surprisingly high) we cannot yet feel that the use of high forceps in preference to Cæsarean section is criminal nor that the high forceps should be relegated to the junk heap. The selection of cases for high forceps operations needs careful study and in case of doubt the benefit should nearly always be given in favor of Cæsarean. Cases of unusual contraction of the pelvis have been rare, only one standing out prominently — one in which there was marked scoliosis and lordosis, and a marked obliquity of the pelvis. In spite of all anticipation to the contrary however, labor progressed quickly and normally.

In the general care of the patients, ante partum and post partum, the main principle has been the imitation of nature and the strictest asepsis (including clipping of the pubic hair, the enema, etc.). Ante partum and post partum douches are given only on special indications. Vaginal examinations are not made oftener than necessary; but, with aseptic precautions,

are not the cause of puerperal infection. Post partum complications are met as they arise, maintaining asepsis first of all with as little disturbance of the patient in every way as is possible. After-pains are best met by the indicated homœopathic remedy. Sore nipples seem to have become a thing of the past by the use of the lead nipple-shield between nursings. Puerperal pyrexia far more often is due to causes other than pelvic infection; when due to the latter, absolute quiet, putting the patient when possible in the open air, forced feedings, prolonged, hot, 2% iodine douches, and the indicated homœopathic remedy have been most effective. Patients usually get up on the tenth day after confinement, but only when not detrimental to them to do so. Elevation of the shoulders seems to help somewhat in avoiding post partum complications by favoring vaginal drainage. Hospital records for the past ten years almost invariably show a considerably increased percentage of puerperal infection beginning about February first and lasting until the vicinity of June first—in spite of methods of treatment identical with those at other times and even more rigid measures than usual. The only conclusion plausible is the inevitable prevalence of bacteria during this time of the year when the cold prevents more thorough filling of the wards with fresh air and sunshine. Several peculiar forms of sepsi have been noted; one with no local symptoms for 6 days, followed then by a severe purulent arthritis of the left knee, and ultimate recovery—another of apparently primary septic double pneumonia and death in two days. Fortunately no case of sudden death from embolism occurred in the present series.

In the toxemias of pregnancy apparently much relief has been given; in eclampsia we seem practically helpless. In regard to both conditions today obstetricians must admit that very little is known as to their nature. We can but treat each one to the best of our present knowledge and then await results. Our earliest and apparently severest case occurred in a primepera of 35, five months pregnant, who had no less than 125 convulsions extending over three days come. A Barnes hydrostatic bag was inserted with great difficulty into a rigid, elongated cervix and allowed to remain two days. The cervical dilatation was then completed by means of a Bossi dilator and the uterus emptied. Recovery took place slowly but the patient left the hospital apparently well. In another primepera of 34, one month pregnant, very edematous, with blood pressure of 180, vomiting, and severe headache, and good pelvic measurement, it was decided to make a rapid dilatation of the cervix and to empty the uterus. This was done under all precautions possible, and the patient died four hours later in surgical shock.

How much better would a Cæsarean have been? Or what would have happened under expectant treatment? These are questions that present themselves more prominently after such a case. We have not really learned yet what influence delivery has upon eclampsia nor when we should deliver and when not.

Were there time it might be of interest to cite a few cases illustrating the dangers of delivery under various types of heart lesions and the importance of their early recognition; also to describe one prominent case of Bandl's ring, and another in which a shoulder presentation existed in a uterus from which the cervix had been totally amputated six years previously; or to speculate as to the reason for the continued prevalence of so called "colds" and "snuffles" among the babies, and especially as to the reason for so many deaths of babies from pneumonia in the hot months.

We must face the fact, however, that much is still unlearned and much remains to be perfected — more widely spread knowledge among prospective mothers of the hygiene of pregnancy, more complete appreciation by physicians of the relation of diet in pregnancy to mother and child, fuller ante partum records, more accurate ante partum diagnosis, tabulated results of extended research on the toxemias of pregnancy and eclampsia, and also by clinical and laboratory tests more of the physiological effects of normal labor as well, and other subjects too numerous to mention here. Better attention is also needed to the teaching of obstetrics clinically in the medical schools. Internes entering the hospital as a rule know very little of obstetrics from the practical standpoint and do not know how to recognize and understand complications in their earlier stages. To illustrate the latter I need only mention the information most enthusiastically given me by an interne while casually visiting the delivery room of the Hospital one evening that "the cord was right down and beating 180 a minute." A rapid delivery obtained a living baby although with more or less difficulty of resuscitation. To train the internes to recognize such complications early, to anticipate possible eclamptic convulsions, to know the indications and contra-indications for forceps, version, or Cæsarean section, to know how to treat placenta previa and heart lesions in labor and many other conditions is no small problem of the obstetrical department of the modern hospital. An accurate and complete classification of hospital records so that they are easily obtainable is also absolutely needed, if we are to know the end-results of our work. To follow cases for two months after delivery is a phase of the work only recently recognized as essential but found actually to be extremely so. Under present cramped conditions

the work has necessarily been much hindered; but with the completion of our new maternity building there should be a degree of efficiency shown by end-results of work there done that could be surpassed in very few other places.

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## **A REPORT OF TWENTY CASES OF ACUTE PERFORATING ULCER OF THE STOMACH**

By G. M. CUSHING, M.D., Chicago, Ill.

I desire to herewith present a report of twenty cases of acute perforating ulcer of the stomach that have come under my care within the past few years and to call attention to certain of the early manifestations which characterize this condition.

All of these patients were men, and, with the exception of two, whose ages were 52 and 56 respectively, they were between the 20th and 30th years of age. All were of good habits, except one, who was addicted to the use of alcoholics.

The history of such cases, as related in most text books, would indicate that collapse, rapidity and poor quality of the pulse and distention of the abdomen are among the symptoms to be expected. As a matter of fact not one of these symptoms were present in any of my cases, all of whom, with the exception of one, were seen very soon after the perforation occurred.

It is misleading to consider collapse among the early symptoms if it is to be measured by rapidity and poor quality of the pulse, for in these cases, during the early hours, the quality of the pulse is practically normal and in none of my cases was it running above 80 when I first saw them.

A symptom common to all the cases was the sudden onset of the most intense abdominal pain, usually referred to the upper abdominal region accompanied by a board-like rigidity of the abdominal muscles, which never relax for a moment.

I would like to emphasize the suddenness and severity with which this pain strikes the patient. They are comparatively well one moment and the next they are paralyzed with pain, so severe that they fall and cannot move and can scarcely breathe. I recall that one of my patients had worked all day at his regular employment and was at home washing his hands before supper, when the perforation occurred. He fell in his tracks and had not moved when the first doctor arrived. Another was in a saloon drinking when the perforation occurred. He also fell in his tracks and it was two hours before he could be carried home.

A third was in his home poking the fire in his heating stove when the perforation occurred. He fell over on the floor and it was four hours later and only after  $\frac{3}{4}$  grain of Morphine had been administered that he could be lifted on to a couch in the same room.

The absolute rigidity of the whole body is quite in contrast to the ceaseless unrest of a patient suffering the agony of hepatic or renal colic.

The patient's expression is of one who is terror struck, and the approach of the examining hand is quickly resented and a most piteous appeal for gentleness is made. These patients cannot make any pretense to breathe deeply and the answers to one's questions are jerked out with an effort, the end of which is cut short with a spasm of pain.

The alert, anxious, apprehensive look that these patients always wear is the most eloquent evidence of their intense suffering. Unfortunately the unaltered character of the pulse in the early hours is not generally recognized and may readily lead to a most serious delay.

The pulse increases in rapidity and depreciates in quality very soon, but this is not an evidence of perforation, but of peritonitis which is the inevitable sequel. Any one can readily recognize the presence of peritonitis but it should be our aim to discover at the moment of its occurrence the lesion to which the peritonitis is due. The symptoms and signs of the perforation are not those of peritonitis which makes haste to develop.

None of my cases vomited after the perforation occurred.

Moynihan says that "The perforation of a gastric or duodenal ulcer is one of the most serious and most overwhelming catastrophies that can befall a human being and unless surgical measures are adopted early the disease hastens to a fatal ending in almost every instance."

In my cases the shortest elapse of time between perforation and operation was four hours and the longest twenty-six hours. The average length of time was about eight hours. In all of the cases the ulcer was on the anterior wall of the stomach. Three were located in the lesser curvature, one near the greater curvature about three inches from the pylorus. The others were all near the pylorus.

In all but one case the operation consisted in closing over the perforation with sutures of catgut and linen and tacking a piece of omentum over the suture line.

The twentieth case was operated in this way but the ulcer was so near the pylorus and there was so much induration about it that in covering the perforation the pylorus was al-

most completely obstructed. In this case in addition to this procedure I performed posterior gastroenterostomy to insure a suitable outlet to the stomach. This operation was done on Dec. 9, 1914 and the patient left the hospital in two weeks apparently in good condition.

About three weeks later he began to have pain in the epigastrium and this continued in spite of medical treatment and dieting until May 1st of this year, when I made an exploratory incision and found a jejunal ulcer directly opposite the gastroenterostomy opening but not attached to the suture line.

I detached the jejunum from the stomach and closed the opening into the stomach, then excised the ulcerated portion of the jejunum and closed the ends, then made a lateral anastomosis of the jejunal limbs and did an anterior gastroenterostomy. The patient left the hospital in three weeks and up to the present time is having no pain or discomfort and is rapidly gaining weight.

This is the only case of jejunal ulcer I have seen in any of my cases of gastroenterostomy for whatever cause. I use linen throughout the anastomosis as a suture material. Only one other case in the series developed any complications or required a second operation. This was case No. 2, who had an enormous ulcer near the pylorus and he never was free from gastric disturbance after the operation. He grew gradually worse and eighteen months after the first operation I opened his abdomen again and found a mass near the pylorus which was very adherent to the surrounding tissue. I did a pylorectomy and posterior gastroenterostomy but the patient died in a few hours from hemorrhage.

I have always felt that this death was probably due to faulty technic on my part and I believe a similar case coming under my care now would be followed by a more favorable result.

Every one of these cases gave a typical previous ulcer history after they had improved enough to talk and they all admitted that for a few days or hours previous to the perforation their gastric symptoms had been worse.

Too much emphasis cannot be placed upon the necessity for operating these cases at the earliest possible moment if a favorable outcome is to be secured. A rapid pulse, vomiting and abdominal distention are not to be looked for among the early symptoms. They are the proof that precious time has been wasted and a valuable opportunity thrown away.

## “ARTICLES OF FAITH” CONCERNING CANCER\*

### A Platform Upon Which to Unite in the Campaign of Education

(1) That the hereditary and congenital acquirement of cancer are subjects which require much more study before any definite conclusions can be formed concerning them, and that, in the light of our present knowledge, they hold no special element of alarm.

(2) That the contagiousness or infectiousness of cancer is far from proved, the evidence to support this theory being so incomplete and inconclusive that the public need have no concern regarding it.

(3) That the communication of cancer from man to man is so rare, if it really occurs at all, that it may be practically disregarded.

(4) That those members of the public in charge of or in contact with sufferers from cancer with external manifestations, or discharges of any kind, need at most take the same precautionary measures as would be adopted in the care of any ulcer or open septic wound.

(5) That in the care of patients with cancer there is much less danger to the attendant from any possible acquirement of cancer than there is of septic infection, or blood poisoning from pus organisms.

(6) That in cancer, as in all other disease, attention to diet, exercise and proper hygienic surroundings is of distinct value.

(7) That, notwithstanding the possibility of underlying general factors, cancer may, for all practical purposes, be at present regarded as local in its beginning.

(8) That, when accessible, it may, in its incipency, be removed so perfectly by radical operation that the chances are overwhelmingly in favor of its non-recurrence.

(9) That, when once it has advanced beyond the stage of cure, suffering in many cases may be palliated and life prolonged by surgical and other means.

(10) That while other methods of treatment may, in some cases, offer hope for the cancer victim, the evidence is conclusive that surgery, for operable cases, affords the surest present means of cure.

(11) That among the many advances in and additions to cancer treatment, the improvements in and extensions of surgical

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\* During the four-day Cancer Educational Campaign, held under the auspices of the Vermont State Medical Society, June 8-11, 1915, Dr. William Seaman Bainbridge, of New York City, presented the accompanying twenty-one "Articles of Faith" at several sessions.

procedure surpass those in any other line, and fully maintain the preëminent position of surgical palliation and cure.

(12) That there is strong reason to believe that the individual risk of cancer can be diminished by the eradication, where such exist, of certain conditions which have come to be regarded as predisposing factors in its production.

(13) That some occupations, notably working in pitch, tar, paraffin, analin or soot, and with X-rays, if not safeguarded, are conducive to the production of cancer, presumably on account of the chronic irritation or inflammation caused.

(14) That prominent among these predisposing factors, for which one should be on guard, are: general lowered nutrition; chronic irritation and inflammation; repeated acute trauma; cicatricial tissue, such as lupus and other scars, and burns; benign tumors — warts, moles, nevi (birth-marks), etc.; also that changes occurring in the character of such tumors and tissues, as well as the occurrence of any abnormal discharge from any part of body, especially if blood-stained, are to be regarded as suspicious.

(15) That while there is some evidence that cancer is increasing, such evidence does not justify any present alarm.

(16) That suggestions which are put forward from time to time regarding eugenic, dietetic and other means of limiting cancer, should not be accepted by the public until definitely endorsed by the consensus of expert opinion. Such consensus does not exist today.

(17) That so far as we know there is nothing in the origin of cancer that calls for a feeling of shame or the necessity of concealment.

(18) That it will be promotive of good results if members of the public who are anxious about their health and those who wish to preserve it will, on the one hand, avoid assuming themselves to be sufferers from one or another dreadful disease, but, on the other hand, will submit themselves periodically to the family physician for a general overhauling.

(19) That at all times and under all conditions there is much to be hoped for and nothing to be feared from living a normal and moderate life.

(20) That the finding of any abnormal condition about the body should be taken as an indication for competent professional and not personal attention.

(21) That watchwords for the public until "the day dawns" and the cancer problem is solved, are:—Alertness without apprehension, hope without neglect, early and efficient examination where there is doubt, early and efficient treatment when the doubt has been determined.

**EDITORIAL**

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Books for review, exchanges and contributions — the latter to be contributed to the GAZETTE only and preferably to be typewritten — personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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**THE INSTITUTE SESSION OF 1915**

If anyone has gained the erroneous impression that the interest in Homœopathy is abating, that impression would have received a rude shock had that one attended the Chicago meeting of the American Institute of Homœopathy. Rarely has there been displayed a deeper interest, more loyalty, or greater enthusiasm than was exhibited at this meeting. The attendance was large, the papers of excellent quality, and the discussions profitable.

Dr. B. E. Miller, the President, conducted the sessions in a business-like manner, showing an ability for quick, but just decisions, which facilitated the transaction of business materially. No radical changes were made in the *modus operandi* of the business part of the Institute. The recommendations of the Committee on Revision of the By-Laws were read, but action was postponed for one year as the proposed changes were so radical it was deemed best to give the matter further study. The evidence was rather conclusive, however, that so far as incorporating into the name and object of the Institute, any definition of the Law of Cure, it were better to let the wording remain as it now is.

The President's business address was practical and timely, receiving the general endorsement of the members. The July number of the Institute Journal prints the address in full. The Treasurer's report shows the balance on the right side of the ledger with an encouraging sum upon which to start the forthcoming year.

Dr. Scott Parsons as Chairman of the Press Committee, demonstrated that the Institute can have its proceedings published widely in the public press, if it has a man of understanding and ability to look after the press reports. The meeting of this year was widely advertised.

It is gratifying to note that the "Reference Handbook of Medical Science" contains an article from Dr. R. S. Copeland on Homœopathy wherein the therapeutic methods of Homœopathy are clearly set forth, as only Dr. Copeland can do. Along with this recognition came the knowledge that the bulletin issued by the United States Bureau of Education contained an article from Dr. W. A. Dewey, Secretary of the Council on Medical Education, on "Medical Education in the Homœopathic School of Medicine." This is particularly gratifying because it has always been difficult to get readers of old school literature, especially those interested in medical education, to inform themselves concerning homœopathic medical colleges. Dr. Dewey's information is clear cut and to the point and must attract notice in the Bulletin.

While all of the bureaux were well attended and showed much interest, there were none which had larger audiences or elicited more keen interest than the Bureaux of Materia Medica and Homœopathy. This was due in part to the able Chairmen who had their respective bureaux thoroughly well organized.

The Surgical and Gynecological Society, under the presidency of Dr. Claude A. Burrett, presented a bureau replete in papers and discussions on modern surgical methods. The only criticism to be offered concerning this Society, is that so many papers are presented that it becomes almost impossible to discuss any of them adequately. The President showed a little tenderness of heart in not adhering closely to the law of allowing only fifteen minutes for a paper and five minutes for discussion. A number of the papers presented at this bureau will appear in the early numbers of the *Gazette*.

Dr. Charles E. Sawyer presented in a forcible manner a comprehensive plan of the re-organization of the Institute, having in mind a more business-like method of conducting the affairs of a body as large as the Institute. This in connection with the ideas advanced by Ex-President Wilcox at Atlantic City for the federation of all the state and County Homœopathic Societies, would materially increase the Institute working power.

The officers-elect are:

**Officers of the American Institute of Homœopathy — 1915-1916**

- President, Henry C. Aldrich, Minneapolis, Minnesota.
- Honorary President, Charles H. Cogswell, Cedar Rapids, Ia.
- First Vice-President, T. Edward Costain, Chicago.
- Second Vice-President, Cornelia C. Brant, Brooklyn, N. Y.
- Secretary, Sarah M. Hobson, Chicago.
- Treasurer, T. Franklin Smith, New York.
- Registrar, William O. Forbes, Hot Springs, Arkansas.

Trustees, J. Richey Horner, Cleveland; Frederick M. Dearborn, New York City; Byron E. Miller, Portland, Oregon.  
Censor, Earnest P. Mills, Ogden, Utah.

#### **Surgical and Gynecological Society**

President, E. Weldon Young, Seattle.  
First Vice-President, T. Drysdale Buchanan, New York.  
Second Vice-President, John W. Harris, Denver.  
Secretary-Treasurer, Scott Parsons, St. Louis.

#### **Obstetrical Society**

President, Jno. E. James, Philadelphia.  
First Vice-President, Stella Q. Root, Stamford, Conn.  
Second Vice-President, J. E. Cogsell.  
Secretary-Treasurer, G. A. Huntoon, Des Moines, Ia.

#### **National Society of Physical Therapeutics**

President, Harlan P. Cole, New York.  
First Vice-President, E. C. Williams, Hot Springs, Va.  
Second Vice-President, Cora Smith King, Washington, D. C.  
Secretary, Earnest P. Mills, Ogden, Utah.  
Treasurer, Alden E. Smith, Freeport, Ill.

#### **Ophthalmological, Otological and Laryngological Society**

President, W. H. Phillips, Cleveland.  
First Vice-President, A. E. Coon, Worcester, Mass.  
Second Vice-President, H. A. Foster, New York.  
Secretary, Ira O. Denman, Toledo.  
Treasurer, W. M. Muncy, Providence, R. I.  
Necrologist, G. W. Mackenzie, Philadelphia.

#### **Censors**

G. W. Mackenzie, Philadelphia.  
T. C. Sage, Waterloo, Iowa.  
G. D. Arndt, Mt. Vernon, O.  
C. E. Allen, Kansas City, Mo.

The next place of meeting is Baltimore, Md.

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### **THE DOCTOR AND THE NEWSPAPER MAN**

It is rather amusing, but sometimes disconcerting to observe how the average newspaper reporter will get "balled up" in reporting a medical address or a medical paper of any kind.

At the last session of the American Institute Dr. Wilcox read a paper on "The Ductless Glands in Surgery," which will appear in the next issue of the *Gazette*. In the paper the author called attention to the effect of the emotions upon the action of certain of the ductless glands, especially the adrenals. He showed how fear, excitement, and hatred when profoundly aroused, would stimulate the action of the adrenals to such an extent as to pour quantities of adrenine into the circulation, thereby materially increasing muscular activity and endurance.\*

Instances were cited where persons chased by wild animals or infuriated beasts would show power of speed and agility far beyond the normal; also of combatants engaged in a deadly struggle showing a power of endurance and courage that could not be maintained by the same individual under less stress of excitement or fear. He further mentioned both the endurance and freedom from hemorrhage displayed by the wounded soldiers in the trenches, attributing the cause to the superabundance of adrenin in the circulation, which not only acted upon the musculature, but served as a hemostatic as well.

The pith of the paper lay in emphasizing the fact that the *emotions* were largely responsible for stimulating certain of the ductless glands to an increased activity and when so stimulated the conduct of the individual was profoundly affected.

Evidently the newspaper man saw much in the paper which could be served up to the public in readable style; but unfortunately he missed the point of the story entirely and got the cart before the horse, for his headlines next morning were to the effect, that if you are brave or cowardly, it is not *you* who are to be commended or condemned, but your *glands*.

It was only by mere good luck that headlines much more startling were not printed, for one enterprising reporter called the writer from the banquet hall and nearly paralyzed him by asking this question: "Now, Doctor, will you tell me just *how much* of this adrenaline the doctors in Europe are injecting into the soldiers to make 'em brave?"

And that reporter had the appearance of being quite intelligent.

The ideas which the press seemed to have obtained from the paper was, that a man was a hero or a coward, according to the activity of his adrenal glands; that a man with sluggish acting glands could not be a hero, and vice versa. The man with high pressure glands must always be a hero. The truth no doubt is that these glands are ever ready to act in every normal individual, but will only act beyond the normal when there is exhibited profound emotion, then the body gets the benefit of the stimulation. There must be first the emotion, then comes the stimulation, which is quite the contrary to the press idea; first the stimulation and then the emotion. There is not the slightest evidence to induce us to believe that the action of these glands will primarily make a man brave, courageous, or heroic. Those are psychic elements beyond the reach of glands.

This idea that the glands make the hero, has taken such strong hold upon the poet editor of the "Detroit Journal,"

that he has burst into rhyme, which is so exceedingly good that one regrets it isn't true.

### COURAGE! COWARDS

(And now we are informed by Dr. DeWitt G. Wilcox of Boston that heroism or cowardice is merely a matter of glands. He explained the matter in an address at the convention of the American Institute of Homœopathy. He cited certain observations made in the present war and advanced the theory that men show valor and superhuman endurance in proportion to the secretions of those little understood but highly important organs.—News Item.)

Some famous Dr. Tinker  
Has evolved from out of his thinker  
A reason why you never take a stand.  
It's not your fault at all  
That you haven't any gall;  
The trouble's deeply seated in some gland.

If you're wont to shake and shiver  
Or you're prone to quake and quiver  
While you're looking at the muzzle of a gun;  
Then you've likely got a goiter  
And you're not supposed to loiter  
When your thyroid gland is forcing you to run!

If a siren spook you've spotted  
With the aid of your parotid  
Glands, remotely tucked away behind the ear,  
It's permissible to speak,  
When you hear the banshee shriek,  
As the glands and not the ghost will cause the fear.

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### BUGS!

I sat and thought, and thought, and thought  
On bugs, and bugs, and bugs.  
For there are bugs, 'tis said, in bed  
And bugs, quite snug, in rugs.

I thought how all of us are bugs,  
Beneath our smooth, soft skin.  
A million, billion, bustling bugs—  
That's all we are, within.

Yes, that is what we are, inside,  
A billion bugs, and bones.  
But bones are bugs, dead bugs  
You know; buglets all turned to stones.

*Harvey S. Chase.*

April 8, 1915. Massachusetts Homœopathic Hospital. *Written after extraction of a carbuncle and inoculation by anti-toxin.*

The following account of the "Wood Dinner" which appeared in the August number of the Institute Journal, is such an excellent report of that interesting affair that we desire to present it in full. — Ed.

### THE WOOD DINNER

Reported by Scott Parsons, M.D.

One of the brilliant events of the 71st annual Institute session held in Chicago, was the "Wood Dinner." This occurred on Thursday evening, July 1, in the Louis XVI room at Hotel Sherman, and was given in honor of Dr. James Craven Wood of Cleveland, in testimony of his services in gaining for the American Institute and its affiliated surgical societies, recognition by the American College of Surgeons.

In this work Dr. Wood requested, not only admission for homœopathic surgeons, on an equality with the surgeons of the dominant school, but insisted upon representation in the management and control of said college. All this was finally granted and obtained and the Institute now has members on the Board of Governors.

That Dr. Wood gained a signal victory without conceding in any particular the rights and principles of homœopathy, is told in the tenor of the correspondence carried on between his committee and the secretary of the American College of Surgeons.

The College of Surgeons, organized and composed of the broadminded, scientific surgeons of this country, had no game to play and no political or sectarian strings to pull. Merit, and merit alone, has been the principle upon which its members were admitted, and the homœopathic surgeons and surgeon-specialists were admitted to membership because they were recognized as scientific men and women in the great field of medicine. Medical sects, principles or beliefs play no part in this organization, and the oath of membership carries with it only those high ideals which every medical man of culture, education, honesty and sincerity strives to uphold in his every day life.

No prettier affair has ever been given than was seen on this occasion. The Louis XVI room, decorated with lavish and exquisite taste, was a bower of floral beauty; while the banquet table arranged in U shape, around which were seated some 125 ladies and gentlemen composed of the Fellows of the College, members of the Institute, and friends, presented a galaxy of beauty and an array of intellect. No finer looking party of men and women was ever congregated.

The repast, so the Maitre D'Hotel informed us, was as elaborate as ever served at the Hotel Sherman and words fail to express the dainty, tasteful, delicious dishes which made up the ten courses of the menu.

Dr. Chas. E. Sawyer, toastmaster, occupied the centre of the speakers' table, while beside him sat Dr. Wood and on either side were assembled the speakers of the evening. The apropos remarks and repartee displayed by Dr. Sawyer in introducing the speakers and dispersing wit with eloquence, stamped him as one of the champion after-dinner speakers of the Institute.

To lend lightness and humor to the occasion which was considered by most of those present as a serious event, Dr. Sawyer, during the intermission between courses, called upon the "New England Wit," Mary E. Mosher, whose capital stories in humor and gesture convulsed the somber audience with laughter and placed all in good humor which was a fitting set-off for the more solemn remarks to follow.

Dr. Scott Parsons, the first speaker, whose topic was "The Surgeon of Today," gave a brief sketch of the surgeon of yesterday in comparison. He called the surgeon of today an idealist, qualified by his education, special surgical training, honesty, sincerity, idealism and charity, and in closing stated that he wished to name one who fulfilled all the qualifications of the surgeon of today — a gentleman, a scholar and a humanitarian, as exemplified in the character of James Craven Wood.

Dr. George W. Roberts, who was to respond to the toast "The Surgeon of the Future," was called home and his remarks were embodied in the response of Dr. Leon T. Ashcraft, who spoke of "Dr. Wood and the American

College of Surgeons." Dr. Ashcraft recalled the earnest work of Dr. Wood in his endeavors and success in gaining recognition for the homœopathic surgeons, and paid high tribute to the manner in which this had been accomplished.

Dr. DeWitt G. Wilcox followed in a response to "The Institute and the College of Surgeons," and after telling a funny story, as only Wilcox can, recited a parody on Mark Antony's speech, Dr. Wood being the Cæsar in this case. While resplendent with humor it conveyed a seriousness and tribute to Dr. Wood which was wonderfully and tactfully brought out. It was a classic.

"To Whom in the American Institute is the Greatest Credit Due?" was the subject of a brief talk by Dr. Orange S. Runnels, and after a short biographical sketch of the work of Dr. Wood in the history of homœopathy in Ohio, heaped more honors upon the head of that favorite gentleman.

Then came the climax of the event, the presentation of a beautiful bronze plaque, made by Tiffany. For this feature Dr. H. E. Beebe, a life-long friend of Dr. Wood's, was selected.

Dr. Beebe in his talk, which betokened love, sincerity and gratitude, expressed in soft and earnest tones, spoke in behalf of the Fellows of the College, members of the Institute and friends, giving the reasons for this testimonial dinner and why they had combined to present to Dr. Wood a lasting memento for the service he had rendered to the now-Fellows individually, and to homœopathy in general. Interest was intense at this time and while other speakers had taken occasion to create more or less merriment by their talks, Dr. Beebe's remarks were simple, solemn and earnest and he finished with the inscription upon the plaque:

PRESENTED TO

DR. JAMES C. WOOD

FORMER PRESIDENT OF THE AMERICAN INSTITUTE OF HOMŒOPATHY

FOUNDER-MEMBER AND GOVERNOR

OF THE AMERICAN COLLEGE OF SURGEONS

FELLOW OF THE BRITISH GYNECOLOGICAL SOCIETY

SURGEON      TEACHER      AUTHOR      FRIEND

BY HIS CONFRERES

AS AN EXPRESSION OF APPRECIATION FOR UNSELFISH,  
SCHOLARLY SERVICE TO HIS PROFESSION

CHICAGO

JULY 1ST

1915

This was the *piece de resistance* and one could hardly suppress a tear of joy.

And through it all sat Dr. Wood. His head down; his gaze fixed before him; his face radiant with appreciation yet saddened by the solemnity of it all. Modesty marked his demeanor and his thoughts seemed to say, "What can I do; what can I say?" Not unmindful of the great honor which he knew was being conferred upon him, he appeared embarrassed as all truly great men are when confronted by a host of friends and adherents and having heaped upon one's head wreaths of honor.

*Modesty seldom resides in a breast that is not enriched with nobler virtues.*  
— Goldsmith.

He had enjoyed the dinner, as all did. He had listened to eulogistic orations in his behalf and now he must respond. He rose slowly to his feet, choked back an exultant sigh, attempted to speak, hesitated, then murmured, "I guess I will have to tell a story before I can collect myself." He did both, and in as few words as was possible, expressed his sincere appreciation for it all. The magnanimity of this man was never more clearly shown than when he stated, "I did not do it all, my committee was back of me," and in closing words, barely audible, he exclaimed, "All I can say is, I thank you—I thank you."

An informal reception and handshaking brought to a close an event which will linger in the minds of those present as one of the grandest occasions in the history of the American Institute.

## TYPHOID PROPHYLAXIS

It has been said that in order to get typhoid one must "either drink it or eat it;" but that is comparatively easy for any of us, considering that typhoid bacilli may be carried by the water or milk supply and through food contaminated by flies or the fingers of those who have come in contact with the infection. While the prevalence of typhoid fever in any community is an index to the sanitary intelligence of that community, it is an acknowledged fact that healthful and sanitary towns and cities suffer from the ravages of the disease as a result of importation of the infection from communities that pay little or no attention to public health and sanitation. Physicians and nurses are especially subjected to the dangers of infection, and the tourist, or even the person who seeks a vacation at a nearby resort, is very apt to strike places where few if any sanitary safeguards are afforded. Typhoid prophylaxis is, therefore, a matter of utmost importance to such persons, and in the light of our present knowledge is known to be efficient and reasonably harmless.

Major F. F. Russell, U. S. Army, reports (Cong. Report 1404) that the vaccine or typhoid prophylactic used by the United States Army consists of a suspension of dead bacilli in salt solution, to which is added 0.25 per cent of tricresol as a measure of safety. The vaccine is accurately standardized by counting the bacilli. Five hundred millions are given as the first dose and one thousand millions each for the second and third, ten and twenty days later. The skin of the upper arm is sterilized with iodine and the vaccine is injected subcutaneously. There is a local reaction consisting of a small red and tender area lasting about forty-eight hours. The general reaction, when present, gives rise to a headache and malaise, and sometimes to fever, chills, and occasionally to nausea, vomiting or diarrhoea. Severe reactions are exceptional and do not occur in more than one to three persons per thousand. The occurrence of a severe reaction need not give rise to anxiety, since they all pass off quickly and leave no trace. No precautions are taken after vaccination other than to warn against use of alcoholic drinks and severe exercise.

Antityphoid vaccine that is dependable and reliable is now prepared by the leading firms of biologic chemists throughout the country and can be obtained easily. The sensitized vaccine is preferred on account of the lessened chances of reaction and the shortened time required for the immunization. *Typho-serobacterin* Mulford for the immunization and treatment of typhoid fever has an action "rapid, safe and durable."

## SOCIETIES

The 486th regular meeting of the Homœopathic Medical Society of the County of Kings was held at the Medical Library building, Brooklyn June 22, 1915, Dr. Roy Upham, chairman. Three interesting papers were presented under the bureaux of Surgery and Preventive Medicine, Dr. Justus G. Wright, chairman. Dr. E. Welles Kellogg, of Manhattan read a resume of experiences in hospital and private work under the title of Surgical Emergencies, discussing the errors of diagnosis met with in cases sent into the hospitals without proper examinations, many of which would not have been taken in if they had had proper diagnosis. Dr. Pallister suggested that errors are less likely to occur in cases in private practice where the surgeon was called to meet the attending physician, but in emergency work where patients were often under an opiate when they reach the hospital and were prepared for operation by the interne before the surgeon saw them such accidents were liable to happen. Dr. W. H. Pierson said that patients will frequently give fictitious names and deny maternity, but by careful questioning and examination the true condition can usually be reached. Dr. O. S. Ritch mentioned a case to which he was called in a hurry which had been diagnosed by the interne as incarcerated hernia that proved to be an orchitis. Dr. Winchell said he admired the paper for its frankness of statement, and said it reminded him of the series of articles published in one of the journals by Dr. Peck, of Providence, on the death list of a young physician, being a

discussion of his losses, and his successes were not mentioned. A paper was presented by Dr. W. E. Doremus, of Arlington, N. J. on Obscure Septicæmia, which was discussed by Dr. J. W. Fox. Dr. R. I. Lloyd showed a series of lantern slides illustrating the conditions of Spina Bifida and other pathological conditions.

L. D. BROUGHTON, Secretary.

### PERSONAL AND GENERAL ITEMS

A very good photograph of the faculty of the Boston University School of Medicine has recently been taken and copies are for sale at two dollars and fifty cents apiece. Every one of the pictures, including President Murlin's, is a new photograph, taken expressly for the group. A limited number remains unsold and can be obtained at the office of *The New England Medical Gazette*, 80 East Concord St.

*The New England Medical Gazette* wishes information of a good location in Massachusetts for an experienced physician, who is willing to purchase small property.

Mrs. Knowles, who since the death of Dr. William R. Knowles in 1907, has conducted the business of the *New England Medical Gazette* left Boston on June 2 to visit her relatives in Seattle, Wash. From there she went with friends on a trip to southeastern Alaska, as far as Skagway and Sitka. She writes enthusiastically of the grandeur of the scenery and the delights of the voyage. Mrs. Knowles expects to return to Boston about the first of September.

Dr. Ralph H. Hopkins and Dr. D. P. Mocas, B.U.S.M., class 1915, will take post graduate courses at Harvard University for the ensuing year.

Dr. Horace Packard will return to Boston on or about September 15th to resume professional duties.

The *New England Medical Gazette* learns with pleasure that Dr. Cecil W. Clark and Dr. A. A. Struthers, B.U.S.M., class 1915, passed creditably the Maine State Board Examination and Dr. Boris I. John passed successfully the examination before the Medical Licensing Board of the State of Rhode Island.

**PRACTICE FOR SALE.** A Homœopathic physician, who has been established for over fifty years, in a city of 15,000 inhabitants, will sell practice, or practice and house.

For last twenty-five years have averaged a business of over \$10,000 a year, with good percentage of collection. House of twelve rooms in excellent condition, hard wood floors, steel ceilings, slated roof, etc. A fine garage, all located on best street in city and very centrally located. A splendid opportunity for the right man. Good reasons for selling. Will introduce successor. Address, *N. E. Medical Gazette*, care of A. B. C.

**FOR SALE.** Three thousand dollar Homœopathic practice in busy Ohio town. Rich clientele. Fine farms. Good roads. Furniture and equipment of offices can be cut down to \$1,000. With splendid introduction. Address with stamp, Opportunity, Care *Medical Gazette*.

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Telephone, Franklin 178-11

For Convalescent Patients. Graduate nurse will take a few patients at her own home. Special advantages for nervous cases.

BERTA PEMBER NUTTER.

**Antiphlogistine** is a physiological antagonist of the inflammatory process—deep-seated or superficial. It produces marked osmotic action upon the swollen tissues, thus relieving congestion because of its hygroscopic, hydrophilic properties. It is antiseptic, soothing, and promptly effective.

# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS

### AN OBSERVATION IN INDIVIDUALITY

By FRANK W. PATCH, M.D., Framingham, Mass.

Among the multitude of articles pertaining to Carcinoma which have occupied our attention in recent years one brief line in an obscure periodical recently attracted my attention.

It stated, in effect, that after all had been said and done cancer was purely an individual disease.

From the standpoint of Homœopathy you can easily see the bearing which such a thought must have on one who is attempting to prescribe for this disease.

It has furnished the text for a case report which will surely prove interesting if it offers no further suggestion for relief to other sufferers from this intractable disease.

That cancer is largely an individual disease I fully believe, and such a conclusion would seem to be warranted when one observes the multitude and varied forms in which it occurs and the striking symptom pictures which are brought out in different individuals.

Unfortunately it is rarely possible for us to get sufficient evidence after the disease is fully developed on which to base curative prescriptions, though I have no doubt that the skilful prescriber often interrupts certain morbid processes that eventually would result in cancer if allowed to persist.

It is a disease which casts its shadow a long way ahead, and its culmination, which often seems to be a rapidly developing specific disease, is in truth but the final concentration of symptoms that have long been distressing the individual patient.

The case under consideration, Miss E. H., first presented herself for treatment in 1902: a school teacher thirty years of

age, who had been vaccinated eight weeks previous, the scar being still unhealed.

She was excessively tired and was suffering from insomnia, especially during the first part of the night; frequent acute colds; headaches with bruised sensations over one temple; vertigo after going to bed at night or on rising from a sitting posture.

She was given Silica 1 M and no more was heard from her for about three years, when she again called with a history of frequent headaches and severe colds followed by a hoarse, barking cough and rheumatic pains in the ankles. Sepia was given without relief, followed by Lyco, which brought a degree of comfort.

During the winter of 1905-6 there was a great deal of rheumatism, largely in the various joints of the lower extremities.

In August 1906 the same trouble is present after the summer's rest. Pains in the ankle, the left foot, shoulders, back of hands.

Here the first mental symptoms began to appear. An irritability, desire to get away from people; to avoid all social intercourse. The symptoms were rather indefinite but were relieved by Puls. 1 M.

Again in the latter part of the winter of 1907 she reported further trouble from the rheumatism and again it was relieved by Puls.

April 28, 1907 after unusual work she reported herself as much over-tired and suffering from a severe acute cold; not rested in the morning; wakeful between two and four A.M.; tearful; appetite poor; chilly most of the time with almost constant hacking cough. Here Sulph. was prescribed. There was no improvement following and in May of the same year she came to Woodside for a brief period and the following history and symptoms were obtained:

Mother living and in good health; father died at age of twenty-six. Mother was twenty years old at birth of child and there are two sisters, one of whom is in good health, the second a frequent sufferer from asthma.

The patient reported having had whooping cough and other children's diseases but nothing severe. A discharge from one ear in childhood and malaria at six or seven years of age when living in the South, with headaches for many years, rheumatism for past six or seven years.

She is tall, weighs 144 pounds, with black hair.

The mental state was one of morbidness and irritability; half sided headache; dull, heavy pain aggravated when tired,

coming at intervals of a few days; worse from anxiety; better during the morning hours, so frequent that she hardly knows how it would seem to be without a headache; sleep normal.

Mouth; amalgam fillings.

Alimentary. — Appetite good; desire for sweets; dislikes fat; normal action of the bowels.

Menses. — Menstruation regular, severe cramping pains in the lower part of back and lower part of abdomen during first day; relieved when lying down and when sleeping. Aggravated by noise, mental confusion and fatigue; desire to be alone.

General. — Feels energetic in cold weather; frequent acute colds which are persistent and disagreeable. Complexion muddy and dark; hands moist.

After a careful repertory study Caust. 1 M. was prescribed. The result was not satisfactory.

After a month of constant rest her general condition became somewhat improved; headaches rather less frequent and the rheumatic pains better, but all these things were evidently due to rest rather than the remedy which had been administered, as the character of the symptoms really had changed but little.

She spent a summer in the country, and in December, when back at work in the school room, reported many of the symptoms to be continuing, with constipation; stools of hard round balls, often painful; a renewal of unusual fatigue and mental confusion coming with her work.

Graphites 1 M was administered with improvement. Nothing more was heard from her until March 1908 when the Graphites was repeated in the 50 M potency. This carried her along until May.

At the end of the school year, with all the fatigue of a hard winter, she developed a severe cold for which Puls. was prescribed intercurrently and with relief.

In July she again complained of constipation, the menses painful, and Graphites 1 M was administered with gradual relief of these symptoms.

In August she received the 50 M of Fincke; marked improvement followed and nothing more was heard from her for a year.

In July 1909, after a hard year's work which she had gone through unusually well, she complained of mental confusion and severe menstrual pain. Graphites was repeated and again on December 28 of the same year she received the 8 M; this carried her along for another year.

December 9, 1910; she had become somewhat debilitated after a severe cold and was given Graphites 1 M. This is the

last that was heard from her for three years, with the presumption that for the most part things had been going pretty well.

She had continued her work as a teacher in an institution for the blind and had used her summer vacations for recreation in the country.

January 12, 1913 she again presented herself and at this time with a more serious tale. She reported then that during the previous summer, that is, during the summer of 1912, she had discovered trouble in the left breast.

Being at that time in her home town, she consulted her local physician. He advised immediate removal of the breast, which was done, and under the microscope the report that came back showed the tumor to have been malignant.

Within the past two weeks,—this remember is in January 1913,—the right breast has begun to be involved in a similar manner and on examination an indurated tumor, the size of an English walnut, was found.

The cicatrix on the left side was bright red in color, normal in appearance. She is now much better in general health than in a long time as far as the old symptoms are concerned; the headaches diminished and the menstruation less painful.

The trouble in the breast was first discovered during a menstrual period. At present constipation is the only other symptom present. There is absolutely no desire for stool. Stools of hard, round balls, dry and difficult.

Fortunately I had an ample record of the previous history of this patient, and after what had been accomplished in the past I felt justified in advising caution as to further surgical interference.

The patient herself was most willing to adopt any suggestion and consequently put herself under treatment.

The first remedy prescribed was Graphites in the 60 x, six powders.

January 19.—Very little change except the constipation had been slightly relieved. Graphites 1 M.

January 27.—The nodule in the breast seemingly softer and smaller. Bowels acting well.

February 9.—The breast no better, exceedingly sensitive to pressure. Sensation of numbness in right arm. Constipation present. Graphites 60 x.

February 16.—Breast again had softened; severe bronchial cold, wheezing, expectoration, constipation.

February 23.—Cough and cold continues; lump in breast less apparent; no pain in axilla; numbness in both hands on wakening in the morning.

March 8.—The lower part of the breast normal; upper

right segment occupied by a hardened tumor freely movable; constipation; cracks in the hands; Graphites 60 x.

March 25. — She reported by mail the tumor harder though not larger than before; apthae in mouth, corners of mouth blistered and painful. Graphites 50 M.

April 4. — Not as well; she complains of increased pain, soreness in the breast, not sleeping well for mechanical reasons, she cannot lie on the right side in comfort. Sensation as though struck in different parts of the body. Discouraged; badly constipated, stools hard and dry; frequent vertigo when walking or lying. Examination showed breast more sensitive to pressure. Sulphur 60 x was given and later the 200th with the same experience that obtained when Sulph. was administered several years previously, that is, no reaction.

After what Graphites had done for this patient in the past it was difficult to give it up and consequently on May 1 and January of the following year, 1914, the Graphites was repeated in 50 M and 1 M several times with varying results. It became evident that there was an aggravation during the menstrual period which accounted for seeming relief which came between the periods; this could not be attributed to any action of the medicine.

Finally in December she again returned to Woodside. At this time presenting the following symptoms. — Easily tired; constipation ; waking at 3 A.M.; pain and lameness in the whole right side, arm, intercostal muscles; vertigo at frequent odd times; tumor for the present freely movable, not growing rapidly but not disappearing or changing materially; pain and stiffness in right arm growing worse; great soreness in the region of the breast which is aggravated from motion of arm and at menstrual times; the whole breast badly swollen.

The patient at this time appeared actually ill; how much of this was due to fear and how much to the pathological condition it is difficult to say.

It became evident, however, in watching her from day to day that Graphites was not going to cure the case; it relieved to a certain extent, especially her general symptoms, but never seemed to go far enough to bring a persistent or progressive improvement.

Consequently on January 6, 1914, after further study it was decided to attempt another selection.

Carb. Animalis was chosen and she was given the 1 M. For the first time real improvement in the patient's mental and physical condition became evident.

She went back to her school after a week and on February 19 reported very little pain in the breast, with less swelling and

much less soreness and a seeming diminution in the size of the tumor. Greatly improved sleep.

No further medicine was given until February 27, when there was a slight aggravation of symptoms, especially the lameness and soreness of the breast, and Carbo. Animalis was repeated. Again improvement followed and went on until March 9, when it was necessary to again give further medicine and at this time she received the 50 M. By the end of March improvement had become well established and she went on until May, when she contracted a severe cold for which Bry. 60 x was prescribed. This cold proved to be severe and troubled her through most of the month of May.

May 24 she reported feeling splendidly; no pain; some hardness in the breast but tumor seems to be broken up; it is perfectly movable and not sensitive. She is now sleeping at night but is somewhat constipated. Two powders of Carbo. An. were given to be taken in case of return of pain.

July 8 she again reported as going on well with only occasional discomfort in the breast. She was again given two powders of Carbo. An. 1 M to be taken only if necessary. They were taken during a menstrual period and she reported July 22 as still improving.

On September 2, 1914 she reported recent occasional short attacks of pain in the upper abdomen after meals and at night. I was considerably distressed at this report, fearing an abdominal complication might be pending.

She was sent two powders of Carbo. An. C. M. and September 30 reported that the pain had been relieved after a few days; that occasionally since then she had had uncomfortable feelings in the abdomen but nothing more. Lately has not been sleeping well in the early morning; not well rested; can use arm without difficulty; bowels in fair condition; seldom any severe headache; hardened tumor in breast has almost entirely disappeared although occasionally seems to return for a short time.

These symptoms were evidently in part due to fatigue. She was given four powders Carb. An. to be used if necessary.

December 6. — She reported two nights before cramps about the navel lasting all day. She knew of no possible cause for it, but in the recent months had suffered from occasional fleeting pains in the abdomen; worse when on her feet; relieved when lying. Spent one day in bed and one sleepless night. Otherwise she had been very well recently. On examination the abdomen seemed normal, temperature normal although she was chilly at the beginning of this attack. This may have been the result of a sudden acute cold. She was given one powder Carbo. An.

No further report until January 4, 1915, when there seemed to be slight pain in the breast. Again Carbo. An. 1 M with entire relief.

A letter received recently reports that there has been no return of the trouble in the breast, which now seems perfectly normal, and that she has continued in good health and strength.

This observation covers a period of thirteen years in the life of my patient. Several matters stand out in relief which are most interesting to the Materia Medica student.

First, the course and development of symptoms evidently latent for a long time in the system, finally culminating in a local disturbance under the diagnosis of Carcinoma, with relief from the preceding symptoms and improved general health; all of which substantiates Hahnemann's observation in regard to chronic diseases.

Then again, the remedies: Four medicines only brought noticable reaction in this period of thirteen years.

The prescription of Silica for an acute condition in the early days of observation is not of course included; neither are the remedies which failed to bring about any change in the symptoms.

Lyco. and Puls. were both most serviceable in the earlier stages of the symptoms in relieving sub-acute conditions which were really of considerable moment at the time.

The Puls. brought about greatly increased comfort over a period of several years, relieving almost entirely a long series of rheumatic symptoms which had nearly incapacitated the patient from carrying on her occupation.

Graphites evidently went deeply into the economy and assisted in bringing about a state of comparative health covering a period of several years. It was finally a surprise to me that Graph. was not able to cure the whole case but, as you have seen by this report, after the period of localization it entirely ceased to be of further service.

Then, the symptoms having become localized on the surface of the breast it became necessary to select a remedy especially adapted to the local condition.

Carbo. An., as you all know, has all these symptoms in its provings and it did its work completely in this instance.

As far as can be discovered there is no special relationship between Puls. and Graph., the remedies which were used in sequence in the earlier part of the case, at least no such observation has been noted in any of the books to which I have had access.

Graph. and Carbo. An., however, are comparable in their

symptom pictures though perhaps not actually complimentary in the usually accepted understanding of that term.

This experience shows our homœopathic materia medica at its best, relieving a long continued chronic disease which had become localized in the form of a desperately dangerous disease.

It may be a little early even yet to feel positive of the continued health of this individual but, having watched her as I have over this long period of time and seen the development of strength and health coming year by year, I feel a reasonable hope that she is out of danger.

It may be suggested that this was not actually a case of malignant disease. The only evidence to be offered is the report after the operation on the original condition and the course of the disease together with the symptoms. These should be interpreted fairly and given such weight as those best able to judge may deem best.

The case is presented simply as an observation in *Materia Medica* study as related to chronic disease rather than as an affirmation in diagnosis.

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## NEW TREATMENT FOR LOCOMOTOR ATAXIA

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My first writing on locomotor ataxia was published in the *Chicago Medical Recorder* of January, 1910. In that, I endeavored to show that the disease is the result of slow mercurial poisoning, in no way related to syphilis excepting through the prevailing method of medication in the treatment of the latter disease. Since that time I have been investigating the theory in a practical manner. In doing this I discovered facts of such paramount importance as to make questions of theory a secondary consideration. Whether or not the mercurial hypothesis be true, the over-shadowing fact that locomotor ataxia is curable, still remains.

The object of this writing is to call attention to a new method of treatment which has been highly successful in locomotor ataxia during certain stages of its development.

The following cases have been selected for the purpose of showing the results of treatment during different stages of the nerve degeneration.

Case 1. Mr. H. age 50. During the year 1888 he was engaged in mining operations in the Cascade Mountains. After having been in camp five months, during which time he had

not seen a human female, he noticed a small pimple upon the inner surface of the prepuce. Being ignorant of the appearance of syphilis, he became alarmed and wrote to an advertising doctor. The reply stated he had syphilis and must take medicine for a long time. The remittances and medication continued for many months. The little abrasion was free from induration and soon healed. After a few months another pimple like the first appeared, and followed the same course.

A few years later his attention was attracted to a peculiar tingling sensation (formication) of the skin, which he attributed to "loose hairs." Not long after this he began suffering from neuralgic pains, especially in the legs below the knees. These increasing in severity, caused him to consult a regular physician who treated him a long time for neuralgia and rheumatism, but without benefit.

One day, a doctor with whom he was acquainted, observing his irregular gait, told him he feared it was locomotor ataxia. Examination revealed the absence of pupil reflex; tendo-patella reflex, which with the exaggerated muscular action in walking led to a diagnosis of locomotor ataxia. The disease — regardless of treatment — slowly progressed until I first saw him in April 1911.

At this time locomotion was awkward; the feet were "floppy" and imperfectly controlled. Frequent and severe attacks of neuralgic pains in legs and arms, often centered in the ankles and feet, sometimes in one, sometimes the other, sometimes in both. These attacks appeared to be excited and intensified by unusual atmospheric changes in humidity. There was formication and marked sense of padded soles of the feet. The areas of anæsthesia of the surface of the body were quite characteristic. The sphincters of both bladder and rectum were partially paralyzed. The tendo-patella reflex was absent, and the action of the contraction of the pupil was confined to accommodation only — the Argyll-Robertson pupil. There was no complaint of waist-band nor throat constriction.

He was placed under powerfully penetrating light rays\*

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\* The late Dr. Finsen promulgated the theory of the destruction of micro-organisms by *chemical* action of the violet and ultra-violet rays. In this he was mistaken. The destruction is due to *mechanical* action which causes disintegration of their protoplasmic constituent. It is a result of the agitation produced by the wave forces. If a bottle of cream be agitated for a short time disintegration results. The process in these cases is similar, differing only in the length of the wave force; the violence of the agitation. It will thus be observed that the color (wave length) is unimportant. Any rays of light in sufficient quantity, which are properly condensed for powerful penetration will accomplish the result. Condensation is the vital point, and the condenser must be in geometrical proportion to the task imposed. It is not a question of the kind of light, but of the *quantity* delivered at the point desired.

Following my earlier publications of the successful employment of the combined and penetrating light rays in the treatment of certain diseases, the market was flooded with lamps designed for the alleged purpose of utilizing light therapeutically. The manufacturers were wholly ignorant of the basic principle of light therapy, but sold their practically valueless wares on the score of cheapness, to busy doctors who were equally ignorant of these principles, and the results have been disappointing, and a detriment to light therapy.

In the treatment of locomotor ataxia the rays should be applied to the naked skin over

twice daily. Before the end of the second month the neuralgic paroxysms recurred at longer intervals and with less severity; the sphincter control was almost normal, and the gait had improved sufficiently to attract the attention of his friends.

The treatment was continued during the following two years. The improvement has slowly but steadily progressed until he can run, jump, and *dance* without showing any imperfection in muscular action. His general health is good, and his appearance is that of a sound man. Still there are certain imperfections which appear to be permanent. The tendo-reflex of both knees is absent, and the pupil reflex is but little changed. Anæsthesia has been markedly reduced, but the location of pin-points over certain areas is far from normal. This is probably due to complete degeneration of certain nerve filaments.

The psychic influences are interesting. For instance, this patient had reached a stage of improvement in which his gait was normal. If he slipped or tripped in walking, his feet quickly and naturally recovered their natural position. He could walk a line without hesitation or inconvenience. If a board two inches wide were laid upon the floor he experienced no difficulty in walking upon it. But if one eight or ten inches wide were slightly elevated he immediately became possessed of the old fears and was unable to maintain an upright position.

If he saw a patch of ice or a wet place upon the sidewalk, especially if the light fell upon it so as to produce glistening, he was compelled to avoid it. He appreciated the fact that it was a matter of mind, and that he would eventually overcome it.

In order to overcome the fear induced by elevation I advised him to lay a plank upon the floor and practice walking upon it, then gradually raise the ends a little each day until he became accustomed to various elevations. This suggestion has proved successful in several cases.

Appreciable benefit is usually obtained within a few weeks, but it required about two years to accomplish the results described in this case.

Case 2. Mr. B., Salesman, age 42, gave the following history. In 1904 he presented specific lesions for which he took a three-years course of mercury. In 1908 he observed a slight weakness in the right hand, which was soon followed by the same condition of the muscles of the right leg below the knee.

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the whole body once or twice daily for fifteen or twenty minutes. In many cases there will be found a degree of hyperesthesia of the skin in which the rays are productive of suffering. In such cases the rays should be applied from a greater distance which may be reduced as the skin becomes more tolerant. In order to economize space, I will say that anyone interested will receive full information as to technique in any given case, by letter.

I have been using a lamp manufactured by O. J. Auer (an instrument maker of this city) which has proved very satisfactory.

The attack was extended to the left side, commencing as before, in the hand. Soon after this he experienced severe, lancinating pains in both lower extremities. For the relief of pain he was rapidly mercurialized to the extent of marked ptyalism, which was successful in its object. Not long afterward it returned with great severity, but was confined to the anus. Rapid mercurialization was repeated and the pain relieved.

About this time he noticed decided weakening of the sphincters, finally resulting in loss of control.

I examined him first in March, 1913. Locomotion was difficult, the gait being awkward and flopping. There was a sense of extreme waist-band constriction; formices; and padded soles of the feet. Paroxysms of neuralgic pains were frequent and severe. These neuralgic attacks were most frequent in the legs, but were also severe in the back of the neck and arms. The pupil reflex was distinguishable in the right eye, but more marked in the left. *The tendo-patella reflex was exaggerated* and has remained in that condition throughout the treatment.

Penetrating light rays were applied over the whole surface of the body twice daily. The improvement was so gradual that he was at times discouraged, and with difficulty persuaded to continue. Nevertheless he admitted there was improvement in the control of the bladder and rectum, and that cohabitation (which had been unavailingly interdicted) was more natural.

Sept. 1st. Has discontinued the use of cane in walking, and can stand all day in the sales-room without marked fatigue.

Dec. 1st. The pupil reflex of right eye is improved, and the left is nearly normal. Neuralgic pains occur, but so mildly as to occasion little inconvenience. The sense of waistband constriction, and padded soles of the feet have wholly subsided.

Oct. 1st. Neuralgic pains still occur, but they are neither frequent nor severe. The gait is quite normal. He walks and runs without difficulty. Is still under observation.

Case 3. Mr. M., Salesman, age 32. The history of this case presents no facts upon which a diagnosis of syphilis can be based. There is no evidence of syphilitic infection, either hereditary or acquired.

About ten years ago, 1903, he experienced pain and soreness in his right side for which he consulted a doctor. The pain and soreness subsided after a time, but the doctor advised him to continue the medicine, which he did for many months.

In 1906 he noticed that when standing behind the counter his right knee would suddenly give way, backward, and that it required an effort to prevent recurrences. About the same time he noticed a feeling of numbness in his right leg and foot. Soon afterward the left was similarly affected. He became cogni-

zant of the fact that his eyes were failing, he was compelled to squint at price-marks on goods. Closely following, other symptoms rapidly developed. There was partial loss of control of the sphincters of the bladder and rectum; lancinating pains in the legs and arms; a sense of waist-band constriction, and a sense of cushioned soles of the feet. A little later he experienced difficulty in swallowing and a sense of throat constriction.

First examined him in July, 1912. All of the symptoms referred to were present in an extreme degree. There was complete loss of control of the sphincters of the bladder and rectum, a condition which had existed *during the past three years*. Locomotion was exceedingly difficult; hypotonia very marked; areas of anæsthesia extensive; deglutition difficult, and waist constriction extremely annoying. There was absence of the tendo-patella reflex, and a perfectly developed Argyll-Robertson condition of the eyes.

Light rays were applied as in the foregoing cases. The first noticeable improvement was in the action of the sphincters, and this progressed so rapidly that within four weeks both bladder and rectum were fully under control. The relief of pain was very noticeable, and the gait was markedly better. Improvement continued uninterruptedly until May 1913, when he met with a serious accident.

Dec. 1913, treatments were resumed. During the time they were interrupted, muscular control of the arms and legs had reverted but slightly toward their former condition. The hypotonia, which at first had permitted the knees to sag backward so far as to give them a markedly bowed appearance, was much improved. Surface anæsthesia had been noticeably reduced before the accident, and in this respect there had been no retrogression.

June, 1914, locomotion much improved — can walk fairly well without cane; neuralgic attacks less frequent, and much milder in character; deglutition improved, and waist-band constriction slight. His general condition and appearance greatly improved. Is still under observation.

This case furnishes no positive history of mercurialization, but the fact that he took a long course of medication for his liver, and the fact that many physicians believe that the administration of mercury is a correct proceeding in such cases, reduces the supposition to a probability, especially when the results show an inflammation which is precisely like that produced by that metal, as will be shown later.

In order to confine this writing within reasonable space, I have reported these cases of various degrees of nerve degeneration, for the purpose of illustrating the results of the new

method, showing that locomotor ataxia is amenable to treatment during certain stages of its development.

In those cases of extreme degeneration I have (not unexpectedly) met with many failures. But as the degree of pathological changes is not always indicated by external symptoms, it is difficult to differentiate the hopeless, and the apparently hopeless. Case 3 is introduced as an illustration.

Before proceeding with the theory upon which the new treatment is predicated, it may be well to briefly review some facts which may aid in ascertaining if the hypothesis is reasonable, and conforms to natural law.

The early lesions of locomotor ataxia are observed in the posterior spinal ganglia, and in those of the cranial nerves, or in the cornu. "The neurone bodies in the ganglia are early affected by the primary cause, and from these, the degeneration is communicated to their axones. The axones are divided into two filaments known as central and peripheral. The first passes inward entering the spinal cord, or brain axis through the nerve root. The second extends outward in the nerve to the surface. When these nerves are attacked the degeneration of the peripheral extremity is sometimes very marked—in fact the degeneration of the terminal filaments may be apparently complete, while the injury to the cell body may be quite inconspicuous" (Starr). The importance of this will be understood when considering the subject of prognosis.

It is equally important to fix in the mind the system of fibers composing the posterior spinal column. These systems have been divided into two classes known as exogenous and endogenous. The exogenous are those which pass from without into the posterior spinal column through the posterior nerve roots. These fibers are interesting from the fact that they are primarily involved in locomotor ataxia. Endogenous fibers are those arising from the gray matter cells, connecting the various segments of the spinal cord.

"If the pathological condition of the posterior spinal ganglia be examined during the early stages of the disease, it will be found that the degeneration is wholly confined to the central nerve fibers. Whether this inflammation is the primary cause of the degeneration of the sensory neurones which lie in the ganglia, is as yet undetermined" (Starr). Nevertheless it may reasonably be supposed that the *cause* of this inflammatory process is the primary cause of the degeneration.

Authorities are agreed that the lesions may be traced to an inflammatory condition of the ganglia, or cornu, and that here the pathogenetic trail is lost.

Under these conditions, if an agent be projected into the

case which is known to possess the power of producing degenerations which are undistinguishable from those of the early stages of tabes; and if such an agent has been introduced into the system continuously for a long period of time, it should attract sufficient attention to secure serious consideration. It will not be denied that mercury is capable of producing an inflammation of the character found in the ganglia under consideration, and that the character of the inflammation found in these ganglia in tabes is unlike anything known to be produced by syphilis.

After an extended course of mercury portions of the metal may be retained in the system for a long period of time. Sollman declares that "the mercury which has been stored is quite firmly fixed in the non-digestible nuclein residue, favoring the view that it is deposited in the nuclei." (Sollman Pharmacology, Second Edition, p. 640).

As the deposit is always in metallic form; and as metallic mercury is a powerful corrosive poison; and as the metal is stored in the nuclein (probably in the nuclei) of the ganglion cells, we have — at least — traced an ideal agent for the production of inflammatory action to the point where investigations have heretofore ceased.

Opposed to the mercurial hypothesis are the authorities of all countries. They are agreed upon the statement that syphilis is a predominating factor as a predisposing cause, and also, that a certain percentage of cases of tabes were never infected by the virus of syphilis. They assert that there exists some other primary cause or causes which are as yet unknown. One theory is that the degeneration is caused by a postsyphilitic, or a parasymphilitic condition caused indirectly by syphilis, through the action of some supposed toxin of some problematical organisms of syphilis.

And still the search for the primary cause of locomotor ataxia continues, and will continue, unaided by Noguchi's discovery of spirochetes in the brain of tabetics. The discovery was a triumph for the investigator, but it is valueless in determining the cause of locomotor ataxia. A tabetic, who was known to be syphilitic might disclose the presence of spirochetæ in the brain. The same might be true of a syphilitic who died of Bright's disease, or cancer, but that would not prove that these diseases were caused by syphilis. Unreasonable as it appears upon its face, it cannot be denied that the medical profession came near being stampeded by the discovery. It simply proved that spirochetes might be found in the brain of syphilitics; just this and nothing more. The old controversy

of "known" and "unknown" causes of locomotor ataxia are still factors in the case.

Elaborate tables of statistics have been compiled with the object of showing the percentage of these factors in a given number of cases. But these are so unreliable as to make them valueless. They are largely compiled from the history of each case, and as the compiler may never before have seen the case, he gets the history from the patient, who unskilled in diagnosis repeats what some one told him. A former doctor diagnosed syphilis; the patient took mercury, and that is all there is in the case. The compiler gives more mercury, and the entry on the record is "syphilitic." This would be proper, as to the record, if the correctness of the diagnosis is conceded. But just here the whole structure falls. It is well known that the ordinary methods employed in making a physical examination of patients suspected of syphilitic infection, make the diagnosis absolutely worthless. This being true of the honest practitioner, what shall be said of the host of harpies whose trade is fraud? If a certain form of blister appears upon the lips, it is diagnosed as herpes labialis, but if it appears upon the prepuce, and contact with the clothing has removed the epidermis, it is often diagnosed as syphilitic. The same thing is true of almost any eruption occurring upon the inner surface of that membrane. Chancroidal lesions are mistaken for chancre, and a rupture of the frenum when slightly modified by any mild infection is diagnosed as a true primary lesion. Scores of these infections are mistaken for syphilis. And yet it is from such diagnoses as these that the tables are prepared. Every physician knows these things are true, and yet they appear to have accepted such tables as scientific evidence of the causes of tabes.

There still remains a percentage of an unknown quantity dealt with in these tables, i. e., those who never have been infected, and inferentially, have never been subjected to an extended mercurial course. If the tables are true in this respect they are still of practical value. But before accepting, it must be shown that methods employed in making, and classifying the cases were free from error; how it was ascertained that a given patient had never taken a considerable amount of mercury. It has been shown that ignorance of conditions has disqualified him as to diagnosis, and the same objection is offered as to his qualifying as a witness regarding medication. Few patients know the ingredients of the compounds they have taken.

Many authorities recommend a course of mercury for "gouty dermatoses" and other cutaneous affections. Mercury is frequently administered in many diseases, especially if they prove obstinate. Sometimes this is done because everything else

has failed, and sometimes upon the theory of possible syphilitic origin. There is a strong popular sentiment against mercury, and for this reason patients are not advised as to their medication. The old style physicians were imbued with the erroneous idea that mercury possessed a powerfully chologogue action, and there are many still in practice who believe that a mercurial course is advisable for obstinate cases of "liver trouble." In fact there are so many chances of error regarding the ingestion of mercury that all such tables of statistics are practically valueless.

There still remains *immunity*—that mysterious and unknown which has been introduced in order to account for facts which cannot be covered by a faulty theory.

The theory of immunity is based upon the supposed presence of some opsonic influence existing in certain people, which is capable of resisting germ invasion, and which destroys, or neutralizes their toxins. Because it has proved partially true in certain cases of inoculations, it is broadly stretched over a great field of the unknown. If the evidence upon which this theory is based, so far as it relates to locomotor ataxia, is subjected to critical examination, it will be found as faulty as the etiological tables just considered. Supposed immunity has been extended to the entire Mongolian race. It includes the negro, and the inhabitants of the tropical islands. But in none of these so-called immune countries has mercury been used to any considerable extent in the treatment of syphilis. As to the negro, he may be placed in a class with the others, as the ignorance and poverty of the race—as a whole—has prevented him from employing a physician, and therefore escaped the mercurial treatment. If the investigation be confined to the white races, it will be found that under the same circumstances they, also, are immune. For instance, certain islands of the Caribbean Sea were settled by the piratical crews of our great ancestors. Syphilitic infection was introduced and close inbreeding resulted in the production of a syphilitic population. These people are practically white, but in the absence of mercury, locomotor ataxia is unknown to them. From these evidences it appears that *all people who do not use mercury are immune, and that all who do are subject to locomotor ataxia.*

Attention has been called to the exactitude of the early lesions of tabes. They are so similar in their beginning and so uniform in their course as to justify the belief that there is a common primary cause, and this belief is strengthened by the fact that the degenerative process is unlike anything known to be produced by syphilis. The idea that one case is *known* to be syphilitic, and that another case precisely like it, is *known*

to be *non-syphilitic*, and that the peoples of great divisions of the globe are immune, would — but for its seriousness — be amusing.

The hypothesis of slow mercurial poisoning brings all cases within the scope of natural law. The assertion that there are non-mercurialized tabetics is doubtless due to lax methods of securing evidence. It cannot be truthfully affirmed unless the affiant has *positive* knowledge of the patient's medication during a long term of years. Even then an inquiring mind would suggest the possibility of mistake in history or diagnosis, rather than believe that *law*, which governs every phenomenon throughout the universe, has been suspended in this particular case. *That which will produce a disease once will, under like conditions, always produce the same disease. This is law, and upon this common ground all schools of medicine may meet.*

### Treatment

Regardless of the truth or falsity of any hypothesis as to the primary cause, it will be admitted that locomotor ataxia is accompanied by impaired nutrition, and that impairment is the result of interference with the metabolic functions. When the primary cause is unknown — as in the present case — any efforts directed toward the removal of the cause are necessarily empirical. But so far as they apply to the restoration of functional activity, and re-establishing normal metabolism, the case is different. These results are most certainly obtained by rapid oxygenation of the blood, and experience has demonstrated that in accomplishing this, the unknown cause has sometimes been removed.

The most satisfactory method of producing these changes is by means of exposure to powerful and penetrating light rays. In the presence of these rays the hemoglobin releases carbon dioxide, and takes up oxygen very rapidly. It has been said that this result may be produced by inhalation of artificial oxygen. But this cannot be done, as (under ordinary conditions) artificial oxygen is wholly rejected by the red corpuscles, and as only one-sixth of one per cent is taken up by the plasma of the blood, the process is too slow to be of great value. There are few exceptions to this rule, such as drowning and other rapid asphyxiations, and these are impertinent to our subject.

Following exposures to such light rays there is usually a rapid increase in the number of red corpuscles, and a corresponding increase in hemoglobin. Rapid oxygenation results in the destruction of toxines, and increase of red corpuscles is the first step in the reparative process. Nerves, if not dead, may be wholly or partially restored to normal conditions in the

same manner as are other tissues. After complete destruction, there is no metabolic process by which they can be renewed, even though the degenerative process be arrested. When such process is terminated the functions will show improvement or remain stationary, according to the degree of degeneration. An early diagnosis is therefore of the greatest importance, and every suspected case should be immediately examined by a specialist.

The pain will be relieved, but the rapidity of the process will be influenced by the degree of the hypersensitiveness of the skin which is present in many cases.

In those cases in which improvement occurs, it will be observed in about the following order. Mitigation of pain, the attacks occurring at longer intervals; increased control of the sphincters; improvement in locomotion, restoration to normal sensations as to soles of feet, waist-band and throat constrictions. The pupil, and patella reflex may not be restored. In many cases recovery, in which other functions are apparently normal, there will remain entire absence of the patella tendo-reflex. In no advanced case has the skin, especially of the lower extremities, been restored to perfectly normal conditions. The psychic conditions are among the latest to yield.

It will be observed that the new treatment varies greatly from the old. Under the latter method pain is relieved by the administration of more mercury to an already mercurialized subject. If it be true that mercury is the primary cause of the degeneration, it can be understood that more mercury may complete the destruction of the painful nerves, thereby relieving the pain. A diseased nerve may occasion pain, a dead one never.

In any event, mercury has never cured tabes, and it is quite safe to abandon a method which has never had one cure to its credit.

With commendable unanimity the authorities proclaim that locomotor ataxia is incurable. But it must not be forgotten that when a man—it matters not how great an authority—*frankly admits that he does not know*, that minute he ceases to be an authority, and cannot consistently act the part of instructor to his fellow men.

In the empiricism which always follows the want of knowledge, theories may be best judged by the results of their application, and by this standard the new hypothesis gains a certain amount of corroboration.

## SOME NOTES ON ANIMAL EXPERIMENTATION IN ITS RELATION TO SURGICAL PROCEDURE

By J. H. WILMS, M.D., Cincinnati, Ohio

The experimentation and research to be herein described was done by me as one of the associate workers of the B. M. Ricketts' Experimental and Research Laboratory at Cincinnati, Ohio. This work has been necessarily somewhat crude, but its results have been found useful in every-day work in the operating room. We have not enjoyed the advantage of marble walls, tile floors and numerous assistants at our laboratory. Dr. DeNeen and I have done practically all of the work and at times one or the other has had to make notes, assist and give the anæsthetic all at the same time. As a consequence in the beginning we lost a number of dogs from anæsthetic death. The anæsthetic generally used was ether.

The animal laboratory affords a very favorable place for students to develop the technique of anæsthesia for surgical procedure and on this account it should constitute to a greater degree than it does at present part of the routine education of the medical student. It is now seventy years since ether was first used as an anæsthetic and it is only recently that there has taken place any marked advancement or refinement in the technique of its administration. Every anæsthetic has its virtues in special cases and when properly given. Complete relaxation is ordinarily the desideratum, but safety first should be the rule we should constantly keep in mind. In the beginning we used the "pour method" or, as it has sometimes been referred to, the "poor method." This usually took from twenty to forty minutes to put our dogs to sleep. The "drop method" was then adopted but this we found to be more or less impractical. Since however the chief virtue of the method lies in the ether vaporization, I attempted to refine this procedure as follows; I used a wash bottle and an ether bottle submerged in water of 85 degrees Fahr. The air was pumped through this water and then through the ether and then through tubing into an ordinary tin funnel which was made to fit the face of the animal as perfectly as possible in order to exclude the air. I was thus able to anæsthetize in a minute and a half.

We have used the same method in the intra-tracheal and pharyngeal anæsthesia with a complete and smooth narcosis. The increased toxicity of the ether is the chief danger to be apprehended from this form of anæsthesia. And this toxicity may be rather suddenly manifested by paralysis of respiration.

Resuscitation by means of artificial respiration is however generally not difficult to bring about. I was a number of times enabled to successfully demonstrate the remarkable effects of artificial respiration in paralysis of respiration under ether narcosis. The chest should be manipulated as one would a bellows. If the abdomen is open slight traction applied to the upper part of the rectus and irritation to the diaphragmatic branch of the phrenic nerve stimulate the respiration. Artificial respiration should be kept up for thirty minutes at least.

Magnesium sulphate as an anæsthetic and analgesic were recently tried by Dr. DeNeen and myself on 19 dogs. Subcutaneously it produced sloughing and gangrene. Intra-muscular and intra-spinal the same effects were to be noted. Introduced intra-venously it brought about a comparatively smooth anæsthesia with almost complete retention of consciousness. The local effect of magnesium sulphate thus given was merely the obliteration of the vein. In some cases however artificial respiration became necessary. This combined with calcium chloride used as an antidote produced good results. The Molecular solution was used in the experiments. Altogether the results we obtained in the use of magnesium sulphate were not encouraging and we do not feel that its future as an anæsthetic is an especially brilliant one; at any rate it is a drug that should never be injected under the skin.

Thoracic surgery has received much help from animal laboratory experimentation. The introduction of intra-tracheal insufflation anæsthesia marked a distinct mechanical advance in the intra-thoracic work by overcoming pneumo-thorax. The details of the work we have done along this line would require a special paper; however I shall report a few experiments designed to call your attention to some of the difficulties met with by the surgeon doing thoracic work and illustrative of a few points gathered from laboratory experiments tending to illuminate it.

June 15, 1914. Bloodless heart operation. Thorax opened under intra-tracheal insufflation ether anæsthesia. Superior and inferior vena-cava clamped. Incision into right ventricle was bloodless. Sutures were introduced and massage brought back the heart beat. Dog was killed.

October 29, 1914. Intra-tracheal ether anæsthesia. Superior and inferior vena-cava clamped for three minutes. Opened left ventricle. Two sutures. Dog lived 24 hours. Post-mortem — traumatic inflammation of the cardia. Pericarditis and pneumonitis with adhesions on right side. Pleurisy on left side. Sero-pus in both pleural cavities.

November 2, 1914. Intra-tracheal ether anæsthesia. In-

ferior vena-cava clamped six minutes. Superior vena-cava clamped five minutes. Five hours after operation she was delivered of 5 pups and was strong and not suffering in any way. Heart and respiration normal. Post-mortem November 8, 1914. Incision necrosed. Right lung hepatized. Left lung hepatized. Sero-pus in pleural cavities. Both lungs float and crepitate on pressure. Pericardium inflamed and thickened on pleural surface.

November 4, 1914. Intra-tracheal ether anæsthesia. Because of technical blunders, chest was opened in two places. Incision and exploration of cardia which was sutured with linen. Death took place November 6, 1914. Post-mortem. Right chest infected. Cavity filled with red fluid. Pleural adhesions. Collapsed lung. Left chest; lung free with venous congestion over base. No fluid. Pericardium easily separated leaving a smooth glistening surface. Myocarditis was mild and the wound had healed. The pleural covering of the diaphragm on the right side was friable.

November 9, 1914. Large dog. Insufflation anæsthesia. Dog died in 24 hours. Post-mortem. Lungs hepatized. Peritonitis. Gut and liver ecchymosed similar to that found in ether poisoning.

In conclusion it might be said that our results were not very different than those secured by the average surgeon when this work is attempted in man.

These few cases will give you a general idea of the extreme susceptibility to infection of the chest cavity. One interesting point brought to our attention was the fact that although the heart stopped beating in every case it could easily be started again by means of massage. It was found to be important that the natural respiratory effort be kept in action since this is the only way by which we could tell whether or not the dog was getting too much ether. Such minor points were found to be of very great importance.

Surgery of the abdominal cavity with reference to intestinal toxemia has recently invaded the domain of the internist. With a number of our animals we last year placed bands and ligatures around different portions of the intestinal canal with the intention of producing various degrees of stasis. Certain objective symptoms usually followed. Among them was a generalized dermatitis which was manifested in two dogs while with one rabbit and two dogs it produced paralysis of the hind legs. If these symptoms were due to the toxic condition of the intestinal contents they are of noteworthy importance.

It is barely possible that workers in this field may yet be able to isolate certain of these toxins from the intestinal contents

and by injecting them provide us with objective evidence of the symptoms that are supposed to follow in the train of an intestinal toxemia. This I believe is being attempted by some of those doing more refined experimental work. We were able to produce many types of bands and adhesions but were not able to so clearly demonstrate the degree of their effect in the production of intestinal stasis.

It may be of some interest to note that I was unable to find wide variations in the intestinal canals of dogs and other lower animals so frequently to be observed in man. Recently I examined some twenty human colons and there were scarcely two alike. Some were buried beneath the peritoneum: some were angulated at one or both flexures; others were M shaped while a few were U shaped or normal.

Another subject of interest is the possibilities of drainage of the peritoneal cavity. It was found that only a very small portion of the peritoneal cavity is drained by the ordinary drainage tube. Within 24 hours the tube is well walled off and the area of drainage is scarcely larger than the point of contact of the drainage tube. The longer the tube is left in the peritoneal cavity the stronger and denser become the adhesions. A few illustrative experiments will be cited.

May 15, 1915. Abdominal incision and introduction of drainage tube into peritoneal cavity. May 18, 1915. Exploratory laparotomy showed very firm adhesions around the tube. Tube removed. June 11, 1915. Dog was killed. A few small and not very firm adhesions were found between the omentum and under surface of the liver. At the former site of the tube there was no sign of the old dense adhesions.

May 14, 1915. A tube was introduced into the pelvis of a dog and lost. May 25, 1915 dog killed by air embolus. Post-mortem showed large fistula  $3\frac{1}{2}$  inches in diameter in center of abdomen with a small one directed to the left. The general abdominal contents were in good condition. The tube was found buried in the pelvis and was thoroughly walled off, being disconnected with the fistula in the abdominal wall. Tube was gradually being forced to the surface.

May 25, 1915. Laparotomy under ether vapor anæsthesia. A small gauze sponge was introduced into the peritoneal cavity. May 29, 1915. Removed gauze with difficulty and with it came a large quantity of pus. June 2, 1915. Dog killed by air embolus. Post-mortem showed that the abdominal contents were practically normal. A solid walled-off cavity from which the gauze had been removed, was to be noted.

These experiments tend to show that the general peritoneal cavity is very inadequately drained by a drainage tube or

gauze. The ready and vigorous manner by which nature walls off and protects the general abdominal cavity from pus or foreign irritants was also strikingly illustrated.

Our attempts at the prevention of peritoneal adhesions by use of present day methods were very instructive. We used hydro-carbon and olive oil, ether and tincture of iodine. The hydro-carbon and the olive oil had about the same effect as a foreign body in the peritoneal cavity.

March 3, 1914. 60 c.c. of ether was injected in the peritoneal cavity. A profound narcosis was produced and within five minutes ether was detected on the breath. Narcosis lasted about 45 minutes. March 4, 1914. Dog seemed normal. March 5, 1914, dog was in a poor physical condition and was therefore killed with ether. Post-mortem. Venous congestion of peritoneal cavity and abdominal viscera. The bowels were contracted and much inflamed, irritation of the diaphragmatic end of the phrenic caused contraction of diaphragm 15 minutes after heart had stopped beating. Thoracic wall was congested, liver was mottled and much congested. Diaphragm cyanotic and hemorrhagic. Gall-bladder distended with bile.

March 28, 1914. Swabbed peritoneal cavity with tincture of iodine, full strength. Recovery with no symptoms. A month later peritoneal cavity was opened and the inter-intestinal adhesions formed one solid mass, but the dog seemed to be in no distress and the bowel movements were practically normal.

February 28, 1914. Bull-terrier. Ether anæsthesia. Swabbed peritoneum with tinct. of iodine 1 part to 3 parts water. March 8, opened cavity. Omentum was adherent to parietes. There were no intestinal adhesions.

These experiments are interesting in that they illustrate the difficulty there is in finding any antiseptic lubricant or other substance suitable for introduction into peritoneal cavity. It should however be noted that the necessity for this is not emphasized by the experiments, since it was clear that large masses of adhesions may exist without any apparently distressing or untoward symptoms.

#### AIR EMBOLUS EXPERIMENT

April 23, 1915. Nigger. 3-48 P.M. Raised vein under cocaine. Jugular.

3-58- $\frac{1}{2}$  10 c.c. Air in jugular.

3-59 10 c.c. Air in jugular.

3-60 10 c.c. Air in jugular.

3-61 10 c.c. Air in jugular.

4-08 10 c.c. Air in jugular. 4-09 Gasping.

4-10 10 c.c. Air in jugular. 4-10- $\frac{1}{2}$  Tail wags.

- 4-12 10 c.c. Air in jugular. 4-13 Respiration 60 Big sigh.  
 4-13- $\frac{1}{2}$  Respiration 72. 4-14 10 c.c. air in jugular.  
 4-15 Respiration 66.  
 4-16 30 c.c. Air in jugular.  
 4-16- $\frac{1}{4}$  Respiration 72.  
 4-16- $\frac{1}{2}$  30 c.c. Air in jugular.  
 4-16- $\frac{3}{4}$  Respiration 78.  
 4-17 30 c.c. air in jugular.  
 4-18 Respiration irregular one sigh.  
 4-18- $\frac{1}{2}$  Respiration labored.  
 4-19 30 c.c. Air in jugular. Gaped. Respiration 66.  
 4-20- $\frac{1}{2}$  Spasm of the hind legs and sensitive to noise.  
 4-21 Raises head, corneal reflex present. Skin anæsthesia.  
 Muscle reflex and respiration blowing.  
 4-22- $\frac{1}{2}$  Respiration 90.  
 4-24 Respiration 132.  
 4-24- $\frac{1}{2}$  Respiration 72 bowels moved and muscles sensitive  
 to pain.  
 4-26- $\frac{1}{2}$  30 c.c. Air in jugular.  
 4-27 Respiration 72.  
 4-33 60 c.c. Air in jugular. Respiration 48.  
 4-34 Respiration 60 blowing.  
 4-34- $\frac{1}{2}$  Respiration 88.  
 4-36 Respiration 72.  
 4-36- $\frac{1}{4}$  100 c.c. Air.  
 4-37 Respiration 90, irregular sighs, whining spasm of all  
 the extremities and long gasps.  
 4-38 Respiration stopped heart still beating.  
 4-38- $\frac{1}{4}$  Gaped.  
 4-38- $\frac{1}{2}$  Slow respiration.  
 4-39 Breathing.  
 4-40 Respiration 60-120.  
 Air 12 c.c.  
 4-41 100 c.c. Air. Respiration 120.  
 4-42 Spasm gaped.  
 4-42- $\frac{1}{2}$  Gaped.  
 4-43 6 Gasps per minute.  
 4-47 Death.  
 4-48 Right side of the heart is full of air and bubbles.

Amount of air this dog received was 490 c.c. introduced slowly. Another dog received 90 c.c. of air introduced quickly and heart stopped in 10 minutes. On opening the pericardium the heart was greatly dilated and stretching the pericardium; the auricles were beating fully but fibrillation was present in the ventricles when the heart was emptied of the air, squeezed

out, it started to beat normally. Such experiments as the two preceding ones make it clear that an extraordinary amount of air can be taken into the veins without death resulting, hence we see that our fear of air embolus has been probably very much exaggerated.

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## CONSTIPATION IN EARLY LIFE

By CRAWFORD R. GREEN, M.D., Troy, N. Y.

Constipation in early life is not only one of the most difficult conditions to manage, as is generally acknowledged, but it is also probably the most neglected of all conditions in proportion to its importance. A gastric disturbance, a skin eruption, a bronchial cough will upset a household and evoke prompt measures for relief; but an habitual constipation, the results of which may easily be of far greater importance than those of all three such conditions, quite frequently receives no consideration beyond the employment of enemata, suppositories, and castor oil.

In the past few years we have gained a vast amount of useful knowledge concerning the deleterious effects of the constipated habit in adult life. The lay mind is gradually becoming educated with regard to the far-reaching effects of auto-intoxication from this cause and is acquiring an appreciation of the irrefutable fact that good health depends in a large measure upon the free elimination of waste material from the intestinal tract. It is, therefore, a singular fact that so many of those who are the best informed upon this subject give it scant attention when it has to do with infancy, and make but little effort to attain a proper understanding of the causes and effects of the condition in early life. Somehow constipation in infancy is considered by many to be merely a minor matter that will be outgrown, provided the baby is otherwise well. On the other hand, there are many who do apply to their children their fears of auto-intoxication (though they do not know it by its name), and are continually dosing them with purgatives even when the bowels are normal. These castor oil babies are like their adults who are continually taking salts, preys of pernicious habit! It ought to occur to any one that if a perfectly normal intestinal tract needed castor oil twice a week to keep it normal, nature would have put the oil there in the first place and would not have made it necessary for us to buy it at the drug-store and pour it down the child's throat!

It is true that constipation in certain cases does have to be outgrown. After birth the large intestine rapidly becomes

longer in proportion to the length of the body and this condition continues until near the end of the second year when it is often four or five inches longer than the body. When the child is 3 or 4 years old, however, conditions will have changed so that the large intestine is 5 or 6 inches shorter than the body. It follows that this great length of the large intestine in infancy must result in many folds and turns and kinks which necessarily make it difficult for the intestinal contents properly to be evacuated. But as the child grows older the rapid growth in length of the abdomen straightens out these folds and kinks and thus nature removes this cause of constipation.

The detrimental effect of constipation in childhood is at least as great as it is in adult life. The causes may differ and the results may vary, but in each case it should be considered with equal concern. Familiar phenomena of intestinal auto-intoxication such as colic, flatulency, anæmia, loss of weight, periodic attacks of vomiting and convulsions are frequently traceable to no other cause than constipation. In addition to this usual picture, constipation in early life may result in eruptive diseases of the skin, prolapse of the rectum, swollen glands, interference with the action of the diaphragm, and disturbances of the heart and visceral circulation. Constipation may result so definitely in malnutrition that the baby becomes positively marantic. It frequently produces severe attacks of vomiting, repeated convulsions, and screaming from the intestinal disturbances resulting therefrom. Very often we search for an obscure cause for these conditions when the only cause, constipation, stares us in the face. For whatever suffering these effects of constipation during early life may be responsible, the eradication of the cause is essential to subsequent health. Habitual constipation follows a direct path to chronic invalidism and sows the seeds of premature senility.

The cause of constipation is not always easily ascertained nor its certain removal easily attained; but in the vast majority of cases an intelligent understanding of the subject will lead to immediate or final cure. In infancy, constipation is far more common among the artificially fed than among the breast fed, but it does appear in the breast fed with considerable frequency. In most of these cases there is some disproportion of the elements of the mother's milk which produces the constipation; but in other cases there may be most persistent constipation, and yet an analysis of the mother's milk shows it to be absolutely normal. The mothers of these latter babies are almost always habitually constipated, and it is assumed that in the infant there exists an atony of the intestinal musculature of an hereditary type. If the constipated infant be breast fed, the

mother's bowels should be regulated, she should take regular exercise, her milk should be carefully analyzed, and her diet should be regulated according to the results of the analysis. Her milk may be either deficient or too rich in fat, either of which condition may produce constipation. It is usually considered that it is a deficiency of fat that is the cause of most of these cases. The writer has analyzed the milk of many mothers of constipated breast-fed children and found that by far the greater number of them secreted milk altogether too rich in fat, and that the constipation of the babies was due solely to fat indigestion. In cases where the fat is moderately deficient or where it is increased, the condition can usually be improved by adding or removing fats, sugars, and starches to or from the mother's diet as the case may demand. In cases where this treatment will not altogether suffice, the appropriate use of fruit juice, of olive or paraffine oil, or the giving of an ounce of oatmeal water before each feeding may prove of considerable service. Pineapples eaten freely by the mother will often have a very desirable effect upon the infant's bowels. It is generally considered desirable to give the breast-fed baby one bottle daily of an artificial food in order to accustom the baby to taking a bottle, which is most desirable in case weaning becomes suddenly necessary for any reason, and also in order to give the mother greater liberty of action. In the case of a constipated baby who receives one bottle a day in this manner, the substitution of a bottle containing malted milk in the proportion of 4 teaspoonsful dissolved in 8 ounces of hot water is indicated. This food, given in this way, provides adequate nourishment, and the maltose has a very desirable laxative effect.

In the bottle-fed infant the correction of constipation in the majority of cases depends, as in the case of the breast fed, upon an exact understanding of the component parts of the baby's dietary and their effect upon digestion and metabolism. Sometimes constipation is the result of a deficiency in the amount of sugar, sometimes a deficiency in the amount of fat, sometimes a deficiency of water. The largest number of these cases, however, are the result of fat indigestion. There can be no doubt that a very large proportion of bottle-fed babies are fed on altogether too high percentages of fat, and one of the earliest results of such feeding is the production of constipation. These infants may or may not have a normal number of evacuations, but the stools are pale gray in character and so dry that frequently they roll off the diaper without staining it, they are passed with difficulty, and the urine is ammoniacal and stains the diaper. In the cases due to a lack of sugar, fat, or water, or to an excess of fat, the indication is clear — to correct the error.

In some cases this is all that is needed; but in many others the constipated habit is so firmly fixed before dietary correction is undertaken that other measures are necessary in addition.

While in many cases the indications for a given corrective treatment are obvious, in others we can bring no definite knowledge to bear upon the subject beyond empirical recourse to a number of different methods that have proven their worth. The use of oatmeal gruel or jelly as a diluent in the milk mixture is one of the most common and efficient methods of treatment. It is often asserted that the use of cereals as diluents previous to the fourth or fifth month is not permissible. Experience teaches, however, that in many cases cereals are digested and well borne in the very first weeks of life. It is likewise considered by many that the fifth month marks the time when fruit juices should first be given. With many habitually constipated babies of four or five weeks, from one half to one teaspoonful of orange or pineapple juice, on an empty stomach, acts admirably as a laxative and without the slightest unpleasant effect. Prune juice is often useful, as is the liquor obtained by boiling two figs in two ounces of water.

The use of sugar or malt preparations is frequently of service. A 5 per cent sugar solution in water will sometimes act admirably, or, as recommended by Still, the substitution of brown Demerara sugar in place of milk sugar. The substitution of one bottle of malted milk for one of the regular feeding formula is often used by the writer with good results. In other cases in very young infants good results follow the use of one half teaspoonful of malt extract or one teaspoonful of Loefflund's malt soup to every feeding. The results from malt soup require particular study, for while one baby will have excellent results from one teaspoonful added to one feeding daily, another may require one teaspoonful in every feeding.

In children over a year old even better results can be obtained through attention to the diet alone than in infancy because of the greater variety of the diet. Children between one and two are especially apt to be constipated from being kept on a too restricted diet. These children should be given purées of green vegetables such as peas and spinach, and their diet should include cereals of various kinds, especially wheatena, hominy, oatmeal, corn-meal, granum and rusk. Whole wheat bread and bran biscuits are of frequent service, as are also fruit juice, meat broth and beef juice. Reducing the milk and giving 3 or 4 ounces of thin cream often benefits at this age. All fermented milks are laxative, but they cannot be given in large amounts without producing colic. Prunes stewed to a jelly in sugar and water are very useful. It must be remembered that bread,

macaroni, potatoes, and most of the starches tend to constipate. It should also be borne in mind that many children are constipated solely because they do not drink sufficient water.

Drug treatment should be avoided as far as possible. Castor oil, calomel and salts should not be given for constipation, for they are cathartic in action and merely tend to aggravate the condition. Many a case of habitual constipation in adult life can be traced directly back to the continued and needless administration of cathartics in early life. Any one who sees a large number of children constantly witnesses exhibitions of almost unbelievable stupidity in this regard. When drugs do seem necessary, they should always be selected with a view to securing a continued tonic effect upon the intestinal musculature. During the first half year the milk of magnesia, one teaspoonful added to a morning bottle or given before nursing, is sometimes an excellent corrective. It is particularly useful if the infant suffers much from colic, but it should not be used longer than necessary. Aromatic fluid extract of cascara sagrada, ten to thirty drops, has an excellent tonic effect and gives valuable service in many cases. In the writer's experience, cascara in thirty drop doses every second or third night has given particularly good results in the second year of life. In older children a teaspoonful of maltine with cascara sagrada to be given in the morning, or phenolphthalein, one half or one grain, preferably administered in the form of a sweetened wafer, gives much benefit. In older children also, powdered agar-agar, 3 to 4 teaspoonsful mixed with cereal, is frequently of service.

In the youngest infants mechanical measures are often to be preferred to drug treatment when assistance is imperative. Suppositories of soap, glycerin or gluten are frequently used. They are at times permissible, but they should not be used continually because of the irritating effect upon the rectum. Gluten suppositories are less irritating than are those of soap or glycerin, but they are slower in effect. Enemata of soap suds are very commonly employed, but often work harm because of the large amount needed in many cases to produce results. The injection of an ounce of warmed sweet oil is much to be preferred. For immediate effect an injection of one or two drams of glycerin in one ounce of water proves useful. Persistent massage of the abdomen along the course of the colon is recommended, but it usually gives unsatisfactory results.

By far the best mechanical treatment is the internal administration of white mineral oil, in amounts from a dram to a desertspoonful one to three times daily. White mineral oil is unabsorbed and acts simply by mixing with and softening the faecal mass and providing a lubricant to the intestinal tract.

As a rule, the amount given can be gradually reduced as soon as favorable results ensue.

Not infrequently cases are observed in which the cause of the constipation is a tight sphincter muscle. Such cases can usually be corrected by the simple expedient of stretching the sphincter by dilating it with the little finger of mother or nurse. The little finger, anointed with olive oil or vaseline, should be inserted into the rectum by a gentle rotary motion. After this procedure has been carried out for a few successive days the constipation of these cases usually disappears.

There is no doubt that to a large extent constipation in early life has been sadly neglected and woefully mismanaged by physicians and laity alike. In every case its importance should be recognized, its cause diligently sought for, and its treatment persistently prosecuted.

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## IODINE

By AUG. KORNDIEFER, M.D., Philadelphia, Pa.

One of America's most profound thinkers remarked to me a few years ago: "I believe in homœopathy because it is in perfect harmony with nature's laws in other fields of science. Under it in social science may be explained many otherwise unsolvable problems."

This holds so true that it places upon us, and each of us, a responsibility peculiarly our own: and involves the necessity for a comprehensive understanding of the law and of the method of applying the same, in the treatment of disease, coupled with an undying enthusiasm in the development and dissemination of its truths.

The basis of homœopathic therapeutics necessarily is a pure *materia medica*. By pure *materia medica* we are to understand a full and correct record of the power inherent in the individual drug to alter the normal health status of man. This includes a knowledge of the action of the so-called physiologic and lethal doses, as well as of the dynamic effects noted in the symptom registers or pathogeneses of our provings.

*Materia medica* is not merely a mass of symptoms which may be memorized verbally, it is more. It represents drug potentiality in altering functional activities, giving expression to the same through symptoms excited by such drug action upon the healthy. For its best utilization we must emphasize the characteristic symptom peculiarities resultant upon the action of each individual drug, as it is these symptoms that make the drug individual and specific in its totality.

We find in each pathogenesis one or more symptom complexes appertaining to the functions over which the drug exerts a modifying influence that form the homologues of certain diseased states against which it stands in homœopathic relation.

In a word, the study of *materia medica* includes both pharmacology and pharmacodynamics, embracing everything pertaining to the specific action of each drug upon the healthy status of the individual.

A working knowledge of *materia medica* implies an understanding of the symptom complexes which in their totality typify the genius of the remedy. Such symptom complexes usually are limited in number in each drug and when thoroughly understood give the prescriber the key to the successful therapeutic use of our remedies.

To arouse a lively interest in the study of *materia medica* every student should be encouraged to make personal provings of drugs, for thus only can he attain to a full appreciation of the importance of symptoms as the most trustworthy expression of drug effects. Thus only, also, will he attain to a lasting faith in the proved therapeutic agents and become a true and ardent disciple of the Homœopathic healing art. Based upon such foundations the study of our *materia medica* becomes both interesting and practically useful to the physician, and therapeutics a boon to the sick.

Let us by way of illustration apply these thoughts to a study of iodine, one of the most useful of the halogens.

First we must differentiate the purely local phenomena dependent upon the caustic or irritant action of the drug and the purely dynamic symptomatic indications; remembering that the former are practically worthless in determining its sphere of homœopathic use.

In moderate therapeutic doses iodine causes merely some gastric uneasiness and a disagreeable metallic taste in the mouth; larger amounts cause in addition violent vomiting, increased flow of saliva, abdominal pains and purging. Many other symptoms occur which are worthy careful study.

The physiological effects of iodine become intelligible when we accept the explanation of these phenomena advanced by Sajous in his masterful work, "*The Internal Secretions and Principles of Medicine*," in which he says: "Iodine and its preparations are taken up by the leucocytes and it is through the intermediary of these cells that they—or rather the substances into which the leucocytes convert them—penetrate into the circulation.

"The thyroid and parathyroid glands utilize iodine for the elaboration of their secretion, thyroïdase, iodine and its

preparations provoke constriction of all vessels, arteries and veins, because these vessels are supplied with a muscular coat, and owing to excessive metabolism which they incite indirectly in this the contractile layer of the vessels.

“What has been mistaken for general vasodilation is dilation of the capillaries. These delicate vessels not being supplied with a muscular coat or vasomotor nerves are not morbidly influenced as are the others, but they suffer indirectly; the arteries and veins by contracting inordinately drive the blood into them and cause passive dilation.

“The physiological effects of iodine on the test organ cause it to react violently, the adrenals are stimulated with corresponding vigor and, the excess of iodine in the blood aiding, abnormal vasoconstriction, produced in the manner described, occurs. This abnormal vasoconstriction is the direct factor in the production of iodism, and may give rise to four classes of morbid phenomena: (1) passive engorgement or congestion of all capillaries; (2) œdema, when the engorgement becomes excessive; (3) ecchymoses and hemorrhages, when the walls of the capillaries are ruptured; and (4) arrest of function and nutrition when the vasoconstriction is such as to reduce or arrest the flow of blood to the tissues.

“The group of morbid phenomena due to capillary engorgement includes: in the respiratory tract, coryza, antral and frontal pain, pharyngitis, tonsillitis, cough, hoarseness, tracheo-bronchitis and pulmonary congestion; in the nervous system, headache, insomnia, delirium, neuralgia, neuritis, pleurodynia; in the muscular system, myalgia, tremor, twitching and spasm (the spinal centers being likewise hyperæmic); in the organs of special sense, conjunctivitis, dacryocystitis, tinnitus aurium, deafness, perversions of taste; in the digestive system, gastric irritation, vomiting and diarrhœa; in the skin pruritus erythema and dermatitis; in the urinary system, polyuria, albuminuria and nephritis; in the glandular organs, salivation, parotitis and hepatitis with icterus. Less frequently seen are the œdematous infiltrations; œdema of the larynx, palate, pleura and lungs, and of the lids, lips, neck and even the entire surface. Rupture of the capillaries under the stress of blood-pressure is denoted by more or less extensive ecchymoses sometimes involving large areas, epistaxis, hæmoptysis, hæmaturia, menorrhagia and hemorrhagic purpura.

“The fourth group, due to excessive initial vasoconstriction, thus obliterating or reducing more or less local blood-supply and depressing functional activity, includes as to the brain, somnolence, intellectual torpor, vertigo, loss of memory, hebetude, hypochondria and melancholia; as to the spinal system and

muscles, adynamia, muscular flaccidity, inco-ordination, paralysis, a sensation of weight in the limbs; as to the alimentary canal, constipation; as to the skin, cyanosis, ulceration and necrosis. Nutrition may thus be impaired sufficiently under the prolonged use of iodides to produce atrophy, especially of the *mammæ* and testicles.

“Cutaneous eruptions of various kinds, papular, vesicular, eczematous, erysipelatous, pustular, etc., may appear during the administration of iodine or its salts, especially of the potassium iodide.

“The underlying cause of all these eruptions, therefore, is the same as in all phenomena witnessed in iodism, viz., abnormal vasoconstriction.

“The multiplicity of cutaneous disorders is due to the presence in the capillaries of various kinds of wastes: alloxuric bases, hypocatabolized cellular debris, various acids, etc., each of which affects the cutaneous elements in its own way.”

This long array of accurately observed pathogenic effects representing the action of iodine and its salts, accentuates their importance as therapeutic agents. The physiologic explanations however valuable they may be, nevertheless are inadequate as guides to the selection of these preparations for therapeutic use under the homœopathic law of cure.

Hahnemann laid great stress upon the mental symptoms in the selection of the homœopathic remedy. The physiologic study of drugs reveals however but little in this field that is distinctive or characteristic. Nor indeed are the more peculiar mental symptoms likely to be developed save through the provings of the potentized drug. Such provings have enabled us to prescribe the iodine with an accuracy otherwise unattainable.

Among its mental symptoms we find the following to be most characteristic: A feeling as of having forgotten something and does not know what. Excitable, impatient, restless, moving from place to place; gloomy; despondent. Great fear of people, shuns every one, even the doctor. Mental anguish, excessive nervous irritability. Disposition to weep. Cross and sulky, hates to be touched.

Iodine has proved curative in mania and in other diseased states characterized by mental symptoms similar to the above.

The antral and frontal pains of iodine are characterized by the symptom, “as if a band were tied around the head”; or, by headache in the forehead, the brain feels bruised and seems extremely sensitive. As might be conjectured from the congestion that characterizes this remedy, we find throbbing in the head on every motion, aggravated in the warm room and by

fatigue. The patient wants to support the head. The head symptoms frequently occur in conjunction with a sense of great weakness, especially of the arms. Chronic headaches with dizziness on active exertion and a carelessly loquacious, languid, uneasy state of mind, and fitful humor, yield to its action.

The head symptoms frequently occur during the iodine coryza; a dry coryza that becomes fluent in the open air; or, a fluent hot coryza with general heat of the skin. If in addition the patient is cross and sulky and hates to be touched, iodine may be prescribed with confidence.

The iodine pharyngitis is distinguished by a constrictive sensation in the fauces, also a scraping and burning in the fauces, and is accompanied by copious secretion of saliva.

Laryngeal and tracheal inflammation and ulceration often occur and may be accompanied by a plastic exudation. Chronic thickening of the ary-epiglottidean and inter-arytoid folds may supervene from proliferation of connective tissue elements.

Throat cases characterized by husky voice and dry irritative cough; or, by a moist harsh cough, similar to that of hepar; hemming and hawking, dyspnoea, tightness and constrictive sensation with soreness about the larynx and trachea, aggravated in the morning and during damp weather, point to iodine.

Croupous conditions with wheezing and sawing respiration, dry barking cough and strangling sensation; the child, in its distress clutches at its throat.

Tracheal and bronchial croup with tendency to torpor; the cough having lost the peculiar metallic timbre is muffled and indistinct. The more plastic the exudate the more surely iodine is indicated.

In bronchial and pulmonary affections the following symptoms are important: constant tickling irritation to cough in the trachea and behind the sternum; or, an itching sensation low down in the lungs, extending upward through the trachea and into the nasal cavity. "Itching at the tip of the nose is the signal for the cough to begin." The cough may be dry, with stitches and burning in the chest; or, loose with expectoration of quantities of mucus which frequently is blood-streaked. The mucus is white or grayish in color and either salty or sourish in taste, and often is difficult to expectorate. Deep inspiration excites the cough.

The iodine cough is aggravated indoors, in warm, wet weather and when lying on the back. It is ameliorated during the day and in the cool open air.

Accompanying these chest conditions we may have a sense of suffocation; or, shortness of breath on the least exertion.

Great weakness and loss of breath on going up stairs is an important characteristic.

Iodine is especially indicated in young persons who are subject to attacks of blood spitting; also, in cases characterized by swollen cervical and bronchial glands.

Progressive emaciation with good appetite is an important indication in strumous and tubercular subjects.

Remember that the iodine cough is more painful and dry than that of bromine.

In asthmatic conditions iodine and its salts, especially the potassium iodide, hold important therapeutic rank; the great oppression of breathing, great constriction of throat and chest; wheezing respiration, sense of danger of suffocation, pale face, cold sweat on the face and extremities, together with the iodine mental state point unmistakably to this remedy.

Palpitation of the heart worse from the least exertion, with faintness; great præcordial anxiety, obliging constant change of position; sensation as if the heart were squeezed together; severe oppressive pain or stitches in the region of the heart; comprise the main cardiac indications. Iodine has proved curative in cardiac and pulmonary affections complicating rheumatism. It may be of interest to note that Dr. J. M. Schley, of New York, recommended (N. A. J. of H., October, 1887) the sodium iodide in the treatment of angina pectoris for the relief of its most agonizing pain.

The gastric symptoms of iodine often prove valuable indications: thus we have hiccough, empty eructations from morning till evening, heartburn, nausea, with spasmodic pain in the stomach; vomiting, renewed by eating; all accompanied by great weakness and loss of energy. In addition we have the symptom, suffers from hunger, must eat every few hours, gets worried and anxious if he does not eat; feels better after eating. In fact many symptoms of iodine are relieved after eating.

Of the intestinal symptoms the following are the most important: chronic exhausting diarrhœa, stools dark, watery and fetid, with the characteristic restlessness, a constant desire to move from place to place.

Morning diarrhœa, stools watery, foaming, whitish, with pinching pains around the navel and a pressive pain on the top of the head.

Pressure and stitches in the hepatic region, which is painful to the touch; loss of appetite, emaciation, excessive weakness and diarrhœa.

Jaundice with pain and tenderness in the hepatic region; yellow, almost brownish color of the face; depressed irritable

mood; thirst, nausea, constipation alternating with white diarrhœic stools; dark, greenish-yellow corroding urine.

An important though neglected field of therapeutic usefulness is found in rheumatic conditions. The capillary congestion and the inflammatory tendencies are marked and are accompanied by the characteristic "constrictive sensation" in the diseased parts. It has proved valuable in acute articular rheumatism with pericarditis, and curative in chronic arthritic affections with violent nightly pains in the joints; also, in cases characterized by lancinating pains in the arms; or, by paralytic weakness of the arms in the morning on awaking; or, by tensive pains in the joints of the fingers, when bending them; or, cramplike sensation in the thighs and legs, only when sitting.

The nightly bone pains characteristic of iodine usually involve the joints, whereas the mercurial bone pains affect more especially the shafts of the long bones.

In synovitis characterized by much swelling and erratic pains, iodine is frequently indicated. It is applicable to cases of bright red inflammatory swelling of the knee, with pricking and burning pains; as well as in cases of pale swelling with dropsical effusion of the knee; in the latter condition it has followed *apis* well.

In stiff and enlarged joints following acute rheumatic attacks the lower potencies have been used with marked benefit.

Hypertrophy and induration of the lymphatic glands is a leading indication; the pain is rarely severe. The mental symptoms being the key-note to its selection.

Goitre, either soft or hard, "the sense of constriction," guiding to the choice.

Marasmus with intolerable irritability, the child resents the approach of every one, the abdominal lymphatics are distinctly involved.

The skin is inclined to be rough, dry, and of a dirty yellow color; when however prostration is marked the skin may become cold and clammy.

Profuse night-sweats may occur in strumous and tubercular subjects, the emaciation and debility are extreme.

A characteristic feature of iodine cases is found in a peculiar sluggishness of vital reaction and consequent tendency to chronicity in many of the diseased states wherein it is indicated.

Thus briefly we have presented the most important characteristics of iodine, both from the physiological and from the symptomatic standpoint: two viewpoints that give us complementary pictures of its action on the human economy and furnish confirmatory evidence of the importance of this agent in the treatment of many forms of chronic as well as acute disease.

## ELECTRICITY IN EYE PRACTICE\*

By W. FRANKLIN BAKER, A.M., M.D.

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As the treatment of the eye is of great interest and importance to all concerned both from the standpoint of the special practitioner and the general practitioner, any new selection of a treatment should be looked upon with caution and only after advisement. I report the results of these experiments after a few years have elapsed and can verify all the cases reported.

The first cases that attracted my attention were several cases of trachoma which yielded rapidly to treatment by oxygen applied directly to the surface of the conjunctiva and associated with the vacuum electrode.

A few general suggestions I have found are of service in the treatment of all eye cases.

(1) Length of treatment from ten to twenty minutes and have the patients examined by a competent specialist so as to be assured that no further benefit could be derived from any other treatment.

(2) Applications are made to the eye direct or through the closed lids.

(3) Repetition of the treatment from 2 to 3 times weekly.

(4) The best tubes to use are those without internal electrodes.

(5) As to the degree of vacuum, a tube with a light blue luminosity is sufficient.

(6) The tube should be connected on the negative pole and this can be readily distinguished as the cathode lights up with a green light. The pale blue light affords us a radiation of as short and high frequency vibratory wave as can be obtained which are active. If tested out they will produce an image on a sensitive plate.

Generally speaking as to the conditions of the system that have eye symptoms, and here is a field that as a rule the specialist does not go into deeply.

I have found the high frequency particularly of service in all cases of gouty diathesis where the eye is subjected to sensitive disturbances and where a sedative is urgently needed.

In circulatory disturbances of the eye where there is need of a stimulation.

To substantiate some of the findings I extract from a report of L. Webster Fox of the Medico Chirurgical Hospital of

\*Read before the National Society of Physical Therapy, July 2, 1915, Chicago, Ill.

Philadelphia, Pa., where a few years ago I had the pleasure of seeing some of the work carried on under his direction, who had his chief of clinic select eye cases for treatment in the electrical department.

A brief summary of his work was as follows:

One hundred cases of blepharitis marginalis. Application of 10 minutes daily for two weeks of the vacuum electrode cleared up the cases rapidly. Five cases of iritis, 3 specific and 2 rheumatic. There was relief of the pain, but no reduction of the iritis. In one case where supra orbital and infra orbital pain was severe the relief experienced was rapid and magical. It gave instant relief which lasted for several hours. Ten cases of retinal hemorrhage were treated, one from injury, 4 from anæmia, and 5 from albuminuria. Eight cases improved after several weeks of treatment. Two cases of retinitis albuminuria, where the arterial tension was 200 plus, showed no symptoms of relief.

Three cases of amblyopia toxica from tobacco and alcohol were promptly relieved in from 10 to 20 applications.

A somewhat remarkable case is reported of squint, where an operation corrected the squint and the high frequency was applied to the amblyopic eye daily for one month. The result obtained with the uncorrected hyperopia was from 15-200 to 20-50 and with a correction of plus 1.50 spherical lens to 20-40.

He says further in his report: "from my experience with these ten cases of amblyopia exanopsia I am quite sure that we will have a curative measure in electricity much more simple and radical than the fusion method with the amblyoscope. I have found that it takes great patience to train small children and even well-grown boys to practice with and to use this instrument and I predict that it will soon be relegated to the ophthalmic graveyard where so many 'instruments of precision' lie buried."

The general actions of the electric currents can be summed up in the following: "that the vacuum current sets into activity the cellular structures of the eye, improving local nutrition and relaxing the ciliary muscle and relieving the tension and the strain. Reasoning from this outline of action it is not hard to see that the currents are especially beneficial to children with slight degrees of disturbances of vision, which are noticed only upon close application and it is this field of action that will save many children from more serious refractive errors and the benefit from the tonic standpoint must be evident.

A case in point will show its marked benefit in cases of neuroretinitis. Mr. M., patient 76 years of age, suffering with diabetic coma. After several days rest in bed he recovered

from his comatose state complaining of severe pain in the eye so that a hypnotic had to be used. I think Dionin was the one suggested by the family physician.

The high frequency discharge from a felt electrode placed over the closed lids resulted in a prompt relief of the pain so that the treatments were requested daily by the patient and continued treatment has afforded a relief that it had been impossible up until this time to get. While there is no possible chance for a cure in this case the relief is one of the most pronounced good that I have ever seen result. In the deeper structures of the eye the action of the current is shown to be pronounced in the general betterment of the nutrition and the alleviation of inflammatory conditions.

One of the best electrical authorities says of this ray: "From the high frequency vacuum electrode ray we obtain the action of a chemically active ray, as is proved by the effect on a photographic plate rather less penetrating than the X-ray from a still higher tube and its use is demonstrated in recent congestions and inflammations and inflammatory stasis conditions which are promptly relieved by its use.

In the treatment of the conjunctivitis attending "hay fever" perhaps has been personally my greatest success, for with a sterilized vacuum tube the conjunctive can be treated and prompt relief given. As to fardism of the ocular muscle, personally I cannot speak very highly in its favor although I have heard of an attempt to use this mode. Galvanism applied to the origon and insertion of the ocular muscle has been in my hands a most useful therapeutic agent. My method of application is the wrapping of the terminals of the cord with sterile cotton and saturating the ends in normal salt solution to make a direct application to the origon insertion of the various ocular muscle at the point directly back of the conjunctiva. I use a strength of current sufficient to enable me to detect a slight acid taste when the poles are tested out on the tongue.

In paralysis of the orbital muscle of course a much stronger current is used and I prefer a roller electrode with the applying electrode at the back of the neck, while in treating the surface of the eye I have the electrodes placed a few cm. apart on the surface of the conjunctiva.

Another most common and annoying affection of the eyes is the neuroses, and neuralgias following automobile riding where the eye has been subjected to the winds and dust. A sedative application of the high frequency will relieve this condition in a few minutes.

A special double electrode has been put on the market which has many good qualities.

## THE GENERAL PRACTITIONER AS A SANITARIAN

By J. D. VARNEY, M.D., Greenfield, O.

The subject of sanitary science has always been considered a dry, unimportant one, but the day has come when we can no longer ignore it, for it now occupies one of the front ranks in medicine.

I may not be able to bring you anything new, as the subject has been well covered from time to time. The object of this paper is not an attempt to cover the entire field, but if I can enthruse the general practitioner to take up a more active interest in the fight against the unsanitary condition which exists in most of the smaller towns and in so many homes among the poorer classes, my mission will not be in vain.

The advancement achieved by sanitary science in the past few decades has been greater than in any other branch of medicine, and the doctor who is asleep on this question needs something to arouse him from his long winter's nap. The advance has been wonderful, and without exception the diseases in which a reduction of mortality has been effected belong to the contagious and infective type.

This fact is significant as the work of our health boards has been almost entirely along this line, and proves beyond any doubt the efficiency of cleanliness.

See the marvelous changes wrought on Cuba and the Philippines since the United States has taught them cleanliness, the eradication of danger in the Canal Zone, the reduction of contagious and infectious disease in the United States not by antitoxines and vaccines, but by a more strict observance of sanitary conditions, thus proving that cleanliness brings the inevitable results of this remarkable evolution.

But if prevention of disease is to be the crowning glory of our civilization a campaign of education must be begun among our lower classes.

The knowledge that you and I now possess as well as that of our great and trained sanitarians and laboratory workers must be carried to every home and taught at every fireside.

The brilliant work of our laboratory workers, the most notable and distinguished papers from our experts are of no practical value to those who cannot read and write.

So if you and I as sanitarians know how to prevent disease, we can do but little where it is actually needed, until at least some of the knowledge we possess is disseminated among the common people.

The health boards are doing all they can but they cannot reach the people who do not read. So if they are taught you and I must be the teachers. This is a great problem and especially so in the cities because of the cosmopolitan character of the population, the presence of a large number of foreign born living in restricted quarters, and retaining their native customs of living, constitute factors which greatly complicate the situation.

If we expect to derive the benefit coming from sanitary progress, these people themselves must be taught how to follow a system of clean living. And in addition to what you and I can do, and in addition to what all the health boards are doing, a most important step would be to establish a better system of teaching sanitary science in our public schools.

Children should be made familiar with the meaning of the word bacteria, taught the nature of infectious disease, and such precaution as is necessary to prevent its communication to others.

Most of the lower classes do not understand the law (and it is among this class that our trouble always begins). They don't understand the law and look upon any interference which tends to reform and protect them and the public as some thing altogether uncalled for.

And the doctor who is called into these homes must meet this ignorance, and overcome it with knowledge; in other words we must educate before we can advance. And, gentlemen, we must advance, we cannot live in the defective past, and if we are to live in the conquering future we must furnish our own strength to shape its course.

Progressive civilization has issued a new decree and by reason of our relationship as physicians we must be able to use our powers to exercise a tremendous influence, and what we say to people on health matters, what we advise them regarding the prolongation of life, through the prevention of disease, will be kindly received and seriously weighed.

In fact I know of no single agency in all the wide field of medicine so potentially powerful as the physician could be if he would impart the necessary knowledge, and exercise his influence when he comes in contact with these people.

In the short time allotted to one paper one cannot mention all the disease carriers which the general practitioner could help eradicate, but I want to talk to you about one of the worse and most common carriers outside the human body, and one which you can do a great deal to help eradicate.

I refer to the common house fly which has been a follower of mankind ever since the foundation of the world (and I don't

know how much longer). I believe the fly to be one of the most dangerous disease carriers known to mankind.

Born in manure and decaying animal and vegetable matter, and subsisting on sputum, fecal matter, slime or filth, all of which are filled with germs of the worse kind sticking to their bodies, flies enter our homes and crawl over our food. Is it not reasonable to see that they carry living organisms, and bacilli of the worse kind when they come from dead animals, manure, decaying matter, typhoid stools, or the sick chamber of some one suffering from some contagious disease?

These germs not only stick to their exposed parts, but the proboscides through which the fly feeds, and through which he takes this filth, are capable of throwing out great quantities of saliva, which the fly projects against any dry food in order to moisten it and suck therefrom the nourishment upon which he feeds. Think of eating a piece of bread after a fly has left a large saturated area which may be filled with all kinds of germs!

Germs have been found in the proboscides, stomach, intestine and dejection of the fly from twelve to twenty days after feeding him on typhoid stools. Convincing evidence on the part played by the house fly in carrying disease, and especially these things upon their feet, was furnished by the United States Government in the investigation of typhoid in the Spanish-American war when lime was sprinkled over the fecal matter in the pits, later these same flies with their feet covered with lime were seen crawling over the food eaten by the soldiers. In these tents typhoid raged, while in those protected by screens it was very limited.

One more interesting experiment from the hygienic laboratories of the United States Government in the transmission of poliomyelitis by the fly.

Flies have been taken from the cage of monkeys suffering from poliomyelitis and put into cages of the healthy monkey which developed the disease and died within eight days; post-mortem showed the tubercles in the liver and lungs. If this is true of these two diseases it is also true of every other communicable disease, for it is possible for the fly to carry disease in three different ways, by carrying germs on the feet and exposed parts, by depositing it in the dejection and by its bite.

The Government waged war against the mosquito in the South, and now the great slogan is "swat the fly"; so let's organize against him, and do all we can to educate the public to a realization of this dangerous little pest.

Let's keep him away from the sick chamber, insist upon screens in the windows, protect the baby from the fly, and your

mortality will be greatly decreased. See that the stable is clean, the garbage can covered, eradicate the breeding places and strive to bring about as good a sanitary condition as they have in Germany, where they have so successfully eradicated the breeding places that the fly is unknown and where the sanitary law is so strict that you would be arrested if you were to throw a piece of paper or your street car transfer on the street.

If this condition is possible in Germany it is also possible in America. Yes, I believe we are standing on the shore of a sea of unlimited knowledge gazing into the deep future of unexplored truth, and from this vast ocean let us reflect the ever increasing radiance of the sanitation that is to be. So much the splendid advantages of preventive medicine has given us, but let us not be dazed by this light, and mistake the course of elementary knowledge we now possess for that triumphant totality into which, in accordance with the laws of nature it is destined to grow, and if this bright vision fades and the difficult once more appears, let us as a great army of health workers, filled with new aspirations take up the work with greater zeal than before.

Our great army is made up of many divisions, it is made up of the National Board at Washington, it embraces all state and county boards, it counts on all the organizations that labor for the betterment of sanitary conditions, those who fight for pure food, air, water, and better playgrounds in large cities, better protection for working women, proper food and care of children, as well as all measures employed for the prevention of contagious disease. Every day our army is increasing, and every day we are advancing. It is indeed a great army and a great work and if conducted wisely it will accomplish a great victory.

And the general practitioner if he does not neglect his opportunity must be considered a very great and important factor in the great struggle for the accomplishment of the ideal.

#### THE VALUE OF GLYCO-THYMOLINE IN TREATING INTESTINAL DISTURBANCES

The condition of the alimentary canal in all diseases of that tract is one of either congestion or depletion of the villi.

Auto-intoxication follows a condition of depletion and while this condition is not the direct cause of the "self-poisoning" the restoration to normal conditions would undoubtedly prevent septic absorption.

The condition in diarrhoeal diseases is one of stasis with a great amount of exudation of serum, the villi being greatly distended.

In either case a return to normal conditions is most readily effected by an agent producing an exosmotic action—in the one case to deplete and in the other to produce the exudation necessary to wash out the intestines and prevent auto-infection.

That Glyco-Thymoline will do this effectively has been demonstrated time and time again—and many clinical reports from many physicians testify to its great power as a curative agent in all such cases.

## EDITORIAL

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## SYPHILIS IN THE ARMY

An irrefutable method of diagnosis is no respecter of persons. With the Wassermann reaction in the hands of expert pathologists, the diagnosis of syphilis seems now about as dependable as anything in medicine. The statement of the patient as to the symptoms he may or may not have had are of little weight compared with the findings of the pathologist.

It is said that the late Prince Bismarck had a marked aversion to consulting a physician, and when obliged to do so was so extremely non-communicative that upon one occasion his physician lost patience with him and taking up his hat and gloves said, "I bid you good day, Sir Prince. You have made a mistake; you should have sent for a veterinary who is accustomed to treat his patients without asking them questions."

It would seem that modern medicine is approaching the veterinary method. One of the most interesting as well as illuminating reports pertaining to medicine which has been published this year, comes from the Government printing office and is edited by Dr. Edward B. Vedder, captain of the Medical Corps, entitled "The Prevalence of Syphilis in the Army." The report would be worthy of careful study even if it pertained exclusively to the army, for what civilian physician who is at all interested in the physical welfare of the race, is not interested in the physical efficiency of the regular army? But it sheds so much light upon the prevalence of syphilis in civil life that one cannot pass it with a mere notice.

Captain Vedder seems imbued with the real spirit of the scientist in his passion for getting at the bottom of things. He has undertaken the study of syphilis with the determination of finding just what per cent of the recruits and of the regular men in service have had or now have syphilis.

In his introduction he says:

"It occurred to the writer that, since the technique and interpretation of the Wassermann reaction had been placed on such a firm basis, it would be instructive to apply this very efficient instrument for the acquisition of information as to the prevalence of syphilis in the Army. This has been done by means of a series of Wassermann surveys, and the results of this work are given in this bulletin."

To avoid the fallacies inherent to the consideration of small numbers of cases he arranged that each group should contain not less than one thousand men. As an index of the care exercised in checking up the examinations, he had two other laboratories besides his own, check up certain of the cases. As a further evidence of the accuracy of his tests, a series of five hundred parallel tests were made independently by the New York Post Graduate and the New York Board of Health. In that series all three laboratories gave the same report in 299 tests. Of the 201 remaining cases, 166 reports consisted in differences in the degree of reaction in known syphilitics; thus in one laboratory the report was a double plus; in another a triple plus, and so on. Of the thirty-four remaining cases the differences were of a minor nature, wherein the reaction was negative.

Dr. Vedder in his preliminary remarks expressed the belief:

"That the Wassermann reaction as it is performed in this laboratory is sufficiently exact to give trustworthy results in survey work, and that therefore the statistics presented in this bulletin may be considered reliable."

From this he argues,

"Experience indicates that the great majority of all patients in whom the Wassermann reaction is persistently double plus are syphilitic, and that fewer mistakes will be made by treating all such cases for syphilis than will be made by refusing to treat all such cases because they do not happen to present clinical symptoms or manifestations that can be detected at the time the examination is made."

Now as to the deductions. In the group of one thousand cases comprising the recruits who presented themselves for enlistment at the various recruiting stations, and who varied in age from twenty-one to twenty-four, there were 16.77 per cent who were probably syphilitics. At least 7.75 were positively syphilitic, showing the double plus, while 9.2 were presumably syphilitic, showing the single plus. This interpreted means that in all probability nearly seventeen out of every one hundred young men coming from the ranks of laborers, farmers, clerks, carpenters, firemen, waiters, railroad hands, porters, telegraphers,

masons, mill workers, motormen, engineers, blacksmiths, machinists, painters, plumbers, etc., are syphilitic. It is to be assumed that the majority of these young men would not have presented themselves for admission to the army unless they believed they had been cured of their disease, or else ignorant that they were suffering from such, which is presumptive evidence that the next group of one thousand men who did not present themselves as recruits, have the same or a greater percentage of the disease than the first group, but who also through the same ignorance or fallacious belief of cure, will marry and beget syphilitics.

But this is not all the story. This 16.77 per cent of men were found to be syphilitic *after* they had been admitted to the Army. They succeeded in passing the examination made by the recruiting physician because no Wassermann was made, and there was no physical evidence of syphilis.

As Dr. Vedder says:

"This fact alone is eloquent testimony as to the nature of the disease and affords food for thought for those medical men who think that syphilis is a skin disease, and that when there are no obvious eruptions or other gross lesions that the disease has not been present or is cured."

Now comes the further damaging evidence that of all applicants to the army, nine per cent are rejected because of evident venereal diseases. In other words, nine out of every one hundred picked young men who regard themselves possessed of sufficient physical vigor to enter the army, have either gonorrhea or syphilis in so marked a form that they fail to pass the recruiting officer, and an additional seventeen out of each one hundred are found to have syphilis upon being accepted, or twenty-six out of every one hundred young men are suffering from venereal disease, at a period of life when they should be at the acme of their physical vigor.

Dr. Vedder next studied the cadets at the United States Military Academy at West Point. Practically all these cadets eventually enter the army as commissioned officers. It must be remembered that these cadets come from a rather different class of society than do the recruits. They are from thrifty families of comfortable circumstances and living amid moral surroundings. They must have at least a high school education, must of necessity be studious, of good moral character, else they would not be admitted. Yet in spite of this careful weeding, Dr. Vedder finds 5.46 per cent of them to be syphilitics. In the large majority of such cases, syphilis had been acquired before the cadet entered the military school.

We now come to the third division: prevalence of syphilis

among the enlisted men; the army proper. Again taking them in groups of one thousand from various posts scattered over the United States, including Porto Rico, he finds that amongst the white enlisted men 16.08 per cent are syphilitics; amongst the colored 36 per cent; amongst the Porto Ricans 55.93 per cent; military convicts 21.65 per cent; insane soldiers 19.21 per cent. In the last stage of the derelict soldier, The Soldier's Home, he finds 34.75 per cent are syphilitics. The statement is made by Dr. Vedder that 13 per cent of the insanity in the service is directly attributed to syphilitic infection.

From this report a few facts seem quite pertinent.

First, The civilian cannot justly charge the army with being any more syphilitic than are the civilians.

Second, If five per cent of the cadets entering West Point are syphilitics, in all probability there is five per cent of syphilitics amongst the college students of the land.

Third, If it is true in the army, as Dr. Vedder says, that syphilis is productive of more disability than any other infective disease, not even excepting tuberculosis, and is therefore a greater menace to public health than any other single factor, the same becomes true in civil life.

In this painstaking report we are made to see all too clearly that in syphilis we have in both the army and in civil life, one of the greatest menaces to the future stability of our physical strength that we have yet discovered. Tuberculosis fades into the shadow by comparison, in that it is now regarded as non-hereditary, is being controlled by legislative action, and the risk of its acquirement avoided most sedulously by all classes. Syphilis on the other hand, strikes down both its victim and his descendants. Not only is there no attempt at legislative control, but rather is the way made easy and alluring for its acquirement.

Dr. Vedder has shown in syphilis a further menace from the fact that the disease is so subtle in its outward manifestations that in many instances the victim himself is not aware of its presence and may not become so until he sees evidence of it in his children, or later in life he succumbs himself to some one of its manifold subtleties.

In the light of this report can any one doubt the wisdom or necessity of making compulsory the reporting of venereal diseases, or obliging those seeking marriage to submit to a Wassermann test to determine their fitness to marry?

## SOCIETIES

## American Association of Clinical Research

Program of Seventh Annual Meeting, September Twenty-third, twenty-fourth and twenty-fifth nineteen hundred and fifteen. *Headquarters:* Hotel Walton, Broad and Locust Streets. *Sessions:* Hahnemann Medical College Rooms, 220-224 Broad Street, Philadelphia, Pennsylvania.

## Thursday, Friday, Saturday

10 a.m. to 1 p.m. 3 p.m. to 6 p.m. 8 p.m. to 10 p.m.

*Committee Meetings at Hotel Walton.*

*Scientific Sessions at Hahnemann Medical College Rooms:*

The use of the College Auditoriums and Equipments has been generously placed at our disposal by Dean Wm. A. Pearson, Ph.D., the eminent chemist and investigator: Stereopticon to be used with microscope, slides or projecting pictures from books; Laboratory Apparatus; Microscopes; etc.

*Additional meetings at Hotel Walton for papers without accompanying demonstrations: to be announced.*

*Clinics: to be announced.*

1. *Call to Order. Introduction of the President.*
2. *Opening Address by the President: Progress Already Made in Medicine and A Few Things Hoped For.*  
JEFFERSON D. GIBSON, M.D.  
Denver, Colorado.
3. *Report of the Secretary and Treasurer.*
4. *Nomination and Election of Officers.*
5. *The Next Place of Meeting.*
6. *New Business.*
7. *Medical Inspection of Indoor Workers and School Children.*  
ROGER M. GRISWOLD, M.D.  
Kensington, Connecticut.
8. *Blood Pressure: Some Clinical Observations.*  
F. C. ASKENSTEDT, M.D.  
Louisville, Kentucky.
9. *Biochemical Problems.*  
FREDERICK W. J. LENZ, M.D.  
Castleton Corners, New York.
10. *A Clinical Study of 529 Cases of Cancer Subjected to Surgical Ionization.*  
G. BETTON MASSEY, M.D.  
Philadelphia, Pennsylvania.
11. *Carcinoma: Experimental Etiologic Investigation: Summary of Facts Elicited.*  
HOWARD WILBERT NOWELL, M.D.  
Boston, Massachusetts.
12. *Cancer of the Urinary Bladder: Diagnostic Researches: Stereoscopic Illustrations.*  
LEON T. ASHCRAFT, M.D.  
Philadelphia, Pennsylvania.
13. *Lupus: Demonstration.*  
DR. DAVID GENESE,  
Baltimore, Maryland.
14. *Beri-Beri.*  
G. B. B. LARKEQUE, M.D.  
Brooklyn, New York.
15. *The X-Ray in Exophthalmic Goitre.*  
JOHN FRANCIS HERRICK, M.D.  
Ottumwa, Iowa.

16. *The Prolonged Use of the Roentgen Ray.*  
ARTHUR W. YALE, M.D.  
Philadelphia, Pennsylvania.
17. *Static Electricity: Its Uses in Medicine.*  
WILLIAM BENHAM SNOW, M.D.  
New York, New York.
18. *Mechanical Vibration: Its Uses in Medicine.*  
MARY L. H. ARNOLD-SNOW, M.D.  
New York, New York.
19. *Effect of Spinal Adjustment on Toxæmia.*  
DR. R. KENDRICK SMITH  
Boston, Massachusetts.
20. *The Fluoroscopic Screen and the Radiographic Plate in Diagnosis of Medical and Surgical Lesions of the Gastro-Intestinal Tract: Stereopticon Illustrations.*  
C. WINFIELD PERKINS, M.D.  
New York, New York.
21. *A Statistical Review of 3,500 Rectal Cases.*  
FREDERICK H. WILLIAMS, M.D.  
Boston, Massachusetts.
22. *Pruritus Ani, Vulvæ, Scroti: Etiology and Successful Treatment.*  
ORLANDO R. von BONNEWITZ, M.D.  
New York, New York.
23. *Research Work with Radium: Some Practical Points.*  
JOHN M. CRAIG, M.D.  
Philadelphia, Pennsylvania.
24. *Some Research Problems in Medicinal Therapeutics.*  
WALTER E. REILY, M.D.  
Fulton, Missouri.
25. *Some New Studies of Drug Addictions and Their Treatment.*  
THOMAS D. CROTHERS, M.D.  
Hartford, Connecticut.
26. *The Proper Use of Drugs.*  
DANIEL E. S. COLEMAN, M.D.  
New York, New York.
27. *The Inadequacy of Present Diagnostic Methods.*  
PHILIP RICE, M.D.  
San Francisco, California.
28. *The Value of Constitutional Landmarks in Clinical Diagnosis.*  
J. GUTMAN, M.D.  
Brooklyn, New York.
29. *Diagnosis of Latent Tuberculosis by Means of the Gamma Rays and the Thermometer.*  
A. J. WRIGHT, M.D.  
Akron, Ohio.
30. *Tuberculosis: A Report of Several Hundred Cases.*  
JEFFERSON D. GIBSON, M.D.  
Denver, Colorado.
31. *An Interesting Case of Gunshot Wound of the Head: Illustrations.*  
GEORGE W. MACKENZIE, M.D.  
Philadelphia, Pennsylvania.
32. *The Radical Mastoid Operation: Diagnostic and Therapeutic Indications: Stereoscopic Illustrations.*  
GILBERT J. PALEN, M.D.  
Philadelphia, Pennsylvania.
33. *Lithopedion: Specimen.*  
GROVER PHILLIPS, M.D.  
Denver, Colorado.
34. *Cæsarian Section: A Series: A Plea for the Classical Operation.*  
ALONZO J. SHADMAN, M.D.  
Boston, Massachusetts.

35. *Some Results from Ovarian Implantation in the Uterine Cornua.*  
GEORGE L. MONSON, M.D.  
Denver, Colorado.
36. *Scientific versus Speculative Medicine.*  
JAMES KRAUSS, M.D.  
Boston, Massachusetts.
37. *Other Papers.*
38. *Committee Reports:*  
*Executive:* Doctors Gibson, Coleman, Griswold, Krauss, Reed.  
*Research:* Doctors Rice, Askentedt, Peebles.  
*Educational:* Doctors Biedler, Blackmarr, Schenck.  
*Journal:* Doctors Hirshberg, Young, Conklin.
39. *Unfinished Business.*
40. *Banquet.*

Members and guests are urged to be present on Thursday morning and to stay throughout Saturday, prepared to respond to the call of the President at any time during the sessions, irrespective of the order given in this program.

All legally qualified practitioners of medicine and surgery may become members of this Association irrespective of their other medical affiliations, provided they are in good moral and professional standing. Scientists making worthy contributions to the work of clinical research may become honorary members. Other persons may be admitted as contributors, patrons, donors,

Applications for membership may be made to the Permanent Secretary.  
James Krauss, M.D., 419 Boylston Street, Boston, Massachusetts.

### Pennsylvania State Notes for September, 1915

Philadelphia was represented at the recent meetings of The American Institute of Homœopathy by Drs. Ashcraft, Barker, Baker, Carmichael, MacFarland, McKenzie, Nesbit and Pearson. The meetings were very well attended and were successful in every particular. Among the interesting information presented at the meetings the following may be mentioned because of the relation to college affairs.

The Council on Medical Education favors a six year course in medicine consisting of either two years of preparatory work and four years of medical instruction or one year of preparatory work, four years of medical instruction and one year of hospital work. A post-graduate school under the auspices of The American Institute of Homœopathy was proposed.

Of the \$2500 given to Homœopathic Colleges last year by the Institute, \$1500 were used in Kansas City but unfortunately the Kansas City College could not be saved.

The Hahnemann Medical College of the Pacific has consolidated with the University of California and Dr. Ward and Dr. Boericke have been given chairs in Homœopathic Materia Medica and Therapeutics.

The number of graduates from Homœopathic Colleges this year is forty-three greater than last year which is a good index of the growth of Homœopathy.

The new Homœopathic College in Ohio has been doing good work and already has students from thirty-three counties in Ohio and is building a \$60,000 hospital.

Both Dr. Mellon of the University of Michigan and Dr. Hinsdale of the University of Ohio presented excellent papers demonstrating the great value of animal experimentation for the purpose of instruction as related to "drug proving" on the normal human individual. At a conference of the Deans it was decided to formulate a standard method for teaching Homœopathic Materia Medica to students in the laboratory. This is undoubtedly a most important advance and the details of the laboratory course will be worked out at a special meeting of the representatives from each Homœopathic College, which is to be held in Ann Arbor the first week in August. We should have a good representative there, preferably from the department of Materia Medica. It will interest you to know that the department of Materia Medica, of the Hahnemann Medical College, of Philadelphia had

previously planned to introduce laboratory instruction in Homœopathic Therapeutics next year.

The Alumni of The Hahnemann Medical College of Chicago have pledged to pay interest on about \$95,000 for the benefit of their college. This is known as "The Alumni Endowment."

Each Alumnus is asked to pay interest on \$1,000 or more each year as long as he is willing and financially able. Many have paid the principle and thus subscribed to "The Permanent Endowment Fund" and have their names printed in the college catalogue. This plan has been successful and has assisted greatly in solving their financial problem.

The annual meetings of The Clinical Society may be held at Hahnemann College, September 21st, 22nd and 23rd.

The letters received from prospective medical students indicate that we shall have a large number of new students in September.

A recent examination held by the Pennsylvania State Board of Medical Examiners and Licensure was passed by all of the Homœopathic students from Hahnemann Medical College, of Philadelphia. In fact, there were only three medical schools in Philadelphia which had a clean record. They were Hahnemann, The Medical School of the University of Pennsylvania and The Women's Medical College. Old Hahnemann, of Philadelphia, therefore, still continues as a leader of a school of medicine.

*The Schuylkill County Homœopathic Medical Society* held its annual meeting at the Tumbling Run Hotel, Pottsville, Pa., on Thursday, July 29th, 1915, at 12.30 P.M. A sumptuous dinner was served at 1 P.M. and was partaken of by a large number of visiting physicians and members of the society. The scientific program consisted of the following:

"Twilight Sleep," Dr. J. E. James, Philadelphia, Pa.

"Surgery of the Gall Bladder," Dr. G. A. Van Lennep, Philadelphia, Pa.

"Diseases of the Duodenum," Dr. N. C. Bickley, Philadelphia, Pa.

Dr. B. F. Books, president of the Pennsylvania Homœopathic Medical Society addressed the society in a most interesting manner. The meeting was in every way an enjoyable one and the number in attendance was the largest the society has ever entertained.

F. M. Quinn, M.D., Secretary.

A meeting of the Staffs of the West Philadelphia General Homœopathic Hospital and Dispensary was held at the hospital on Tuesday afternoon, July 27, 1915, at 4 P.M. Many important topics were discussed at this meeting by a large number in attendance.

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## THE CLINICAL CONGRESS OF SURGEONS IN BOSTON

The sixth annual session of the Clinical Congress of Surgeons of North America, to be held in Boston the week of October 25, 1915, will be conducted along the same general lines as previous sessions of the Congress in the United States except that, following the precedent established at the fifth session held in London in July, 1914, the number in attendance will be limited. A careful survey has been made of the operating amphitheatres, lecture rooms and laboratories of the several medical schools and hospitals which are coöperating, by the Boston committee on arrangements to ascertain exactly the number of visiting surgeons that can be comfortably cared for at all times and the limit of membership fixed in accordance therewith. There will be a place for each surgeon who receives a membership card. Advance registration is therefore required. At this date the membership list for the Boston session is nearly complete. A formal receipt is mailed to each member upon payment of the registration fee, which receipt is to be exchanged for a membership card upon presentation of the receipt when registering at headquarters during the session. When the registrations have reached the required number no further cards will be issued.

### Special Tickets

The use of special tickets at previous sessions has fully demonstrated the efficacy of this method of providing for the distribution of the visiting surgeons among the various clinics and demonstrations, preventing overcrowding, as tickets for any one clinic or demonstration are limited in number to the actual capacity of the room in which the clinic or demonstration is to be given. Special tickets will be issued for all clinics and demonstrations, and will be distributed daily at headquarters after the clinical program for the day has been posted on the bulletin boards.

### Headquarters

Headquarters will be established at the Copley-Plaza, Boston's newest hotel, which is centrally located in the Back Bay district and from which any of the hospitals and medical schools can be reached in a few minutes. The hotel is located only a block and a half from the Back Bay and Huntington Avenue railroad stations. The Congress headquarters will be on the ground floor of the hotel where there is ample space for the registration and ticket bureaus, bulletins, etc. The large ball room in which the evening meetings are to be held is also located on the ground floor.

The Clinics which will be held at the Massachusetts Homoeopathic Hospital are scheduled as follows:

### MASSACHUSETTS HOMŒOPATHIC HOSPITAL

#### *Monday*

- A. G. Howard and H. Moore.—9. Orthopedic operations: Bone grafting, tendon transplantation.  
 J. H. Payne and D. W. Wells—9. Eye operations: Advancement, pulley stitch; advancement, modified Worth; ptosis, Tansley operations; trephining, glaucoma.  
 Drs. Rice, Houghton, and C. Smith—2. Operations: Nose and throat.  
 W. F. Wesselhoeft and T. E. Chandler—2. General surgical operations: Gastric ulcer, ventral hernia, inguinal hernia, appendicitis, œsophageal diverticulum.

#### *Tuesday*

- J. E. Briggs and C. T. Howard—9. General surgical operations: Prostate, appendix, goiter, inguinal hernia.  
 G. A. Suffa and A. W. Horr—9. Eye operations: Muscle tucking; advancement, modified Worth; cataract extraction; glaucoma.  
 Horace Packard and C. T. Howard—2. General surgical operation: Appendectomy, a simpler method of sealing the appendicular stump. Demonstration cases: Prostatectomy, the choice of routes; the control of post-operative hæmorrhage, illustrative operations; empyema, cases for demonstration; enteroptosis, cholelithiasis.  
 Drs. Rice, Houghton, and Smith—2. Operations: nose and throat.

#### *Wednesday*

- Drs. Rice, Houghton, Johnson, Smith, and Bush—9. Operations: Nose and throat.  
 George H. Earl and H. Moore—9. Orthopedic operations: Congenital dislocation of the hip, bone-grafting, tendon transplantation.  
 W. F. Wesselhoeft and R. C. Wiggin—2. General surgical operations: Nephrolithiasis.  
 F. W. Colburn—2. Operations: Ear.

#### *Thursday*

- J. E. Briggs and C. Crane—9. General surgical operations: Cancer of the breast, appendix, cholelithiasis, nephrolithiasis.  
 Drs. Rice, Houghton, and C. Smith—9. Operations: Nose and throat.  
 G. R. Southwick—2. Gynecological operations: Ovarian cystomata, retro-displacement of uterus, uterine fibromata, perineorrhaphy.

*Friday*

DeWitt G. Wilcox and G. R. Southwick — 9. Gynecological operations.  
Drs. A. S. Briggs, Boyd, Lee, Sedgely, Souther, and Thomas — 2. General surgical operations.

*Demonstrations*

W. H. Watters — Surgical pathology.  
G. A. Suffa — Ophthalmotrope.  
Routine examination of ante-partem cases — Wednesday, 10.  
Social service clinic for post-partem cases — Thursday, 2.  
Daily clinics in twilight sleep.  
Daily exhibition of new maternity building.

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**BOOK REVIEWS**

**Case Histories, Diseases of Women** by Charles M. Green, M.D., Professor of Obstetrics and Gynecology, Harvard University, Senior Surgeon for Diseases of Women, Boston City Hospital, Visiting Physician, Boston Lying-in Hospital. Octavo with 11 full page plates and twenty-five charts in the text, 480 pages, price \$4.00. W. M. Leonard, Publisher, Boston.

This is the latest of the Case History Series. The Author has considered the subject in natural sequence, dividing his book into Five sections according to the Five Epochs of Woman's Life. They are: 1. Infancy and Childhood; 2. Puberty and Adolescence; 3. Maturity; 4. The Climacteric; 5. Anility.

The Subject of each section is presented in the following divisions:— Introduction, Functional Disorders, Malformations, Infections, Traumata-Neoplasms, Illustrative Cases. Each Case is taken up in the order of History, Diagnosis, Treatment and Result, Comment. The latter giving full opportunity for deduction, comparison and presentation of the Author's wide experience as Teacher, Practitioner, and Consultant. The book presents for the Physician, a post-graduate Clinical Course in Gynecology — thorough, interesting, of highest authority, valuable for study, and well-indexed for ready reference.

Next to teaching clinically with all the facilities of bedside or operating room instruction, comes the method now adopted by some of our best writers, of teaching by case histories. When the writer is a careful and close observer, when his deductions are logical, and his reasoning simple, this method becomes the one of par excellence in that it is eminently practical.

The author of this work is to be commended for this excellent contribution to this modern method of medical instruction.

**The Treatment of Fractures.** With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M.D., Surgeon to the Massachusetts General Hospital; Associate in Surgery at the Harvard Medical School. Eighth Edition, Revised and Enlarged. Octavo volume of 734 pages, with 1057 original illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Polished Buckram, \$6.00 net; Half Morocco, \$7.50 net.

It is needless to say that a book written by Dr. Charles L. Scudder on the subject of "Fractures" is a dependable book for students and practitioners. A number of years have elapsed since the last edition of this work appeared. Since that time the method of treating fractures has materially advanced. Perhaps the most notable advance has been the introduction of autogenous bone grafts in cases of bone destruction, delayed or non-union. Dr. Scudder has shown himself master of all these advanced methods by the clear manner in which he presents the subject.

The work is profusely illustrated with excellent cuts, radiographs, and drawings which are of material value in elucidating the subject matter.

**Primary Studies for Nurses: A Text-Book for First Year Pupil Nurses.** By Charlotte A. Aikens, formerly Superintendent of Columbia Hospital, Pittsburg, and of Iowa Methodist Hospital, Des Moines. Third Edition, Thoroughly Revised. 12 mo. of 471 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.75 net.

The third edition has several new features, the most important of which are notes on surgical anatomy and elementary facts relating to asepsis. A table of infectious diseases is a most convenient tabulation of facts giving the important features of these affections and will be of great use. The most noteworthy portion of this publication is that devoted to dietetics and cookery, which consists of 124 pages upon this very important but often neglected subject; over 200 recipes are given and these should prove very valuable. The character of the illustrations is excellent, many of them being new. As an elementary book for nurses it is very complete and the arrangement of the text is clear and concise.

C. D. H.

**The Cancer Problem**, by William Seaman Bainbridge, A.M., ScD., M.D. Professor of Surgery, New York Polyclinic Medical School and Hospital; Surgeon and Secretary of Committee of Scientific Research, New York Skin and Cancer Hospital; Consulting Surgeon, Manhattan State Hospital, Ward's Island; Honorary President, First International Congress for the Study of Tumors and Cancers, Heidelberg, 1906. New York, The MacMillan Company, 1914.

With the development of the widespread interest in cancer there has arisen a definite need for a book of ready reference, of convenient size, giving in succinct and available form a summary of knowledge concerning the subject. This is needed by the general practitioner, by the specialist, by the intelligent layman, by the lecturer on health matters; in fact, by all who are definitely interested in questions of health maintenance.

In "The Cancer Problem" Dr. Bainbridge has written a book of valuable information. He covers the question most thoroughly, considering it from all view points. He begins with the ideas concerning this subject held by the ancients, the Hebrews, and the early medical writers. He has presented all the theories as to the origin and development of cancer, which have ever received any consideration at the hands of medical men. He has presented all the so-called cancer "cures" and shown their failures and fallacies. He has given a fair presentation of the surgical and medical treatment of cancer. He has made clear the widespread evil of cancer and the threatened danger therefrom. Then he has summed up the present knowledge of that yet obscure disease.

While the author has no "cure" to present for cancer, he has a valuable "corrective" agent in the last chapters of his book which are entitled "The Education of the Medical Profession" and the "Education of the Public concerning Cancer." This is a remedy which should be applied most vigorously until we know more concerning the disease.

**The Care of the Baby**, The New (6th) Edition, by J. P. Crozer Griffith, M.D., Professor of Diseases of Children in the University of Pennsylvania. Sixth Edition Thoroughly Revised. 12 mo. of 463 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.50 net.

This valuable little book is now passing through its sixth edition. The baby is a pretty important part of the world's asset today. There are not as many of them (proportionately) as there used to be, and it behooves the present generation to take good care of those it has in order that there may be others yet to come.

Infant mortality did not begin to lessen until a searching, earnest study was made of the care of the baby. Dr. Griffith has added materially to the sum total knowledge of that subject by the presentation of his work. Every nurse who now cares for, or intends in the future to care for babies, should read this book. There is nothing in it which mothers should not know, and most of it would make them better mothers for the knowing.

## LETTER FROM THE SECRETARY OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION

92 William Street, New York, August 19th, 1915.

Dear Doctor:

The annual meeting of the American Medical Editors' Association will be held at the McAlpin Hotel, New York City, on October 18th and 19th.

The forethought of the Executive Committee in arranging for our annual meeting in the East, instead of subjecting its members to the long tiresome journey to the Pacific coast, has been clearly manifested by the great number who have already expressed their intention to attend the forthcoming meeting.

A literary program of unusual interest has been arranged. Papers of particular importance to medical editors upon subjects of momentary and future value will be presented by men of national reputation, details of which will be mailed you later.

Our annual banquet will be held on the evening of Tuesday, October 19th, at the McAlpin Hotel, and while past events have left inefaceable and delightful memories, the coming occasion will surpass them all.

Our annual meeting will be held at a time when New York City offers the greatest opportunity for those of our members who desire to observe clinical work and for those who are interested in the business side, a more propitious time and place could not be selected.

Enclosed you will find a bill for your dues to June 1915. Your early remittance will be appreciated and as the coming occasion is to be all together a special and unusual one, the officers would be glad to receive an assurance that you will attend.

A ladies reception committee has been appointed and we would most earnestly suggest that you bring your wife and family with you as they will not only enjoy the banquet but the entertainment to be provided for their especial benefit.

Make every effort to attend.

Most cordially yours,  
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## PERSONAL AND GENERAL ITEMS

Owing to the European situation, the year which Dr. Florence N. Ward had planned to spend abroad was cut short and she and her sister, Miss Ferguson, spent the winter in New York, placing her two young daughters in school. Dr. Ward returned to San Francisco the first of June, and during the past summer has been enlarging her sanatorium preparatory to the accommodation of Twilight Sleep patients. Dr. Leila V. Trimmer (B.U.S.M. 1914) and Dr. Myrtle Nowell have been engaged as internes for the sanatorium.

Dr. William C. Bailey, who for several years past has been physician in charge of the Out-Patient Department of the Massachusetts Homœopathic Hospital, has resigned from the position and has accepted appointment to the Lakeside Hospital, Cleveland, Ohio.

Dr. Earl B. Maxwell, B.U.S.M. 1915, has located at Van Buren, Ohio.

Dr. Frank L. Jones, class of 1914 B.U.S.M., has opened an office in Malden, Massachusetts.

Dr. Edna B. Wallace, 1915 B.U.S.M., is serving an internship at Fabiola Hospital, Oakland, California.

FOR SALE. — A private sanitarium in good running order. House is practically full of patients. Owner wishes to retire. Inquire of "G. H.," care of *New England Medical Gazette*.

**WANTED.**—By the daughter of a homœopathic physician of Greater Boston a position as office assistant to a physician. Address "B," care *New England Medical Gazette*, or inquire of Mrs. Knowles at Medical School office.

**SUCCESSOR WANTED.**—An homœopathic physician retiring from practice in Boston wishes a successor. Office or part of house, furnished, for rent, or house for sale. For particulars inquire of "Retiring M.D.," care *New England Medical Gazette*.

**WANTED.**—Resident physicians at the Massachusetts Homœopathic Hospital, Boston. Rotation of service. Departments include Surgical, Medical, Research, Obstetric, Contagious, and Out-Patient. Corps of internes. Positions now open to graduates having had one year of hospital experience, Salary \$600 with maintenance. Address General Executive Committee, Massachusetts Homœopathic Hospital, Boston, Mass., giving references, education, date of graduation, age, hospital experience, etc.

Dr. C. S. Raue announces the removal of his office to 1431 Spruce Street, Philadelphia, Pa.

Dr. Paul P. Balcom (B.U.S.M. 1915) has begun practice in his home town, Aylesford, Nova Scotia.

Dr. Clifford D. Harvey (Hahnemann of Philadelphia, 1910) has removed from 511 Talbot Ave., Dorchester, to 5 Babcock St., Brookline.

Dr. Esther S. Barnard Woodward (B.U.S.M. 1900) has been appointed Superintendent of Grace Hospital, New Haven, Connecticut.

**PRACTICE FOR SALE.** A Homœopathic physician, who has been established for over fifty years, in a city of 15,000 inhabitants, will sell practice, or practice and house.

For last twenty-five years have averaged a business of over \$10,000 a year, with good percentage of collection. House of twelve rooms in excellent condition, hard wood floors, steel ceilings, slated roof, etc. A fine garage, all located on best street in city and very centrally located. A splendid opportunity for the right man. Good reasons for selling. Will introduce successor. Address, *N. E. Medical Gazette*, care of A. B. C.

Dr. Henrietta Porter Hovey, class of 1882 B.U.S.M., is located at the Florence May, Rockford, Illinois.

Dr. R. May Williams of the class of 1903 B.U.S.M., has removed from Highland Court to new offices in the Walker Building, 408 Main St., Hartford, Connecticut, where after the first of January next her husband, Stewart W. Reid, M.D., now of St. Vincent's Hospital, New York City, will be associated with her in the practice of medicine and surgery.

The Southern Homœopathic Medical Association meets in Cincinnati on November 9-10-11 at the Hotel Gibson. The program will be unusually attractive. There will be, from the Secretary's report, a large attendance from all over the south.

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# THE NEW ENGLAND MEDICAL GAZETTE

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## ORIGINAL COMMUNICATIONS

### OCCIPITO-POSTERIOR POSITIONS AND TREATMENT

By A. E. BOOTH, M.D., Minneapolis, Minn.

Dr. Arthur H. Bill of the Western Reserve University, at Cleveland, Ohio, in the American Journal of Obstetrics and Diseases of Women and Children, for March, 1915, says: "Occipito-posterior positions of vertex presentations furnish a large percentage of the difficulties in which the physician finds himself entangled. They furnish, most trying at times, apparently insuperable obstacles. The results of delivery under such conditions are often very unsatisfactory and not infrequently fatal to the child. More commonly, it leaves the mother with more or less serious lacerations, exposes her to septic infection, and a long period of, or even permanent invalidism confronts her."

In the bulletin of the Lying-In Hospital, New York City, 1904-1907, of 41,800 cases reported 1,446 or 3.46 per cent were persistent occipito-posterior cases. Of these 1,013 were born spontaneously, face to pubes. Varnier states that thirty out of "thirty-five labors with occipito-posterior positions end spontaneously." Williams thinks, however, "that this percentage of spontaneous delivery is altogether too high." Dr. F. A. King, in his address to the Alumni of the Lying-In Hospital of New York City, November 9th, 1909, emphasized the value of various positions during accouchement, laying particular stress on the value of squatting posture in cases of non-rotation of occiput.

The above and similar items in magazines furnish me with an excuse for breaking into print with a paper that I presented before the May, 1907 meeting of the Alumni Association of the College of Homœopathic Medicine and Surgery, of the Uni-

versity of Minnesota. My object in this paper is not to discuss diagnosis, causation, etc., but to present some suggestions, that were of value to me in the management of these troublesome cases.

No word in the English language has in it more of beauty, or means more to humanity than motherhood. Motherhood implies in itself unselfishness, sacrifice, and suffering. To the bearer it is a costly term, yet without the pain, motherhood would be shorn of its influence, and that great power that means everything to the home, state and nation, would be lost in a few generations, and maternity come to mean simply reproduction. True it is that nothing of real value in this world is obtained without cost. That is apparently the Divine plan. Maternity, however, is dear enough under the most favorable circumstances, and, when malpositions obtain, it is often too great, involving as it many times does, life, or ill health for life.

Among the more common malpositions that we have to deal with in obstetrics is the occipito-posterior position of the vertex. Early in practice it was my lot to witness two deliveries in this position, that served to raise the query in my mind whether or not more could be done and the road to motherhood made easier in malpositions than it is at present.

It is generally conceded that the cephalic presentation with the occiput anterior is the most favorable one for both mother and child. This being granted, the question suggests itself; why not convert all malpositions to this, the most favorable one for delivery? This perhaps cannot be done, but is it not possible to convert more malpositions to more favorable positions, than we are doing? Is it because of the difficulties encountered in performing the operation of manipulations, or because of the likelihood of sepsis, or because of some less obvious untoward effect upon mother or child that such work is apt to be called meddlesome midwifery?

True it is that in the great majority of cases anything more than diplomatic waiting and general management would be meddlesome. These cases would get along about as well without as with a physician in clean surroundings.

In malpositions, however, we have an entirely different proposition. Here it is the physician's duty to be scientifically active rather than waiting, and to leave nothing undone that will conserve, and to keep the cost of motherhood as low as possible.

In looking over the literature, I found that the authorities in the early part of the last century practiced both artificial anterior-rotation of the occiput and cephalic versions. That

was before the time of antiseptics, and hence asepsis, also anæsthesia. Viewed in this light, it is not surprising that even in the hands of such men as Smellie, Mauriceau, Capuron, Nægele, and others, the work should fail and be properly called meddlesome midwifery. At any rate the work was dropped, and has never since been generally taken up. The more recent authorities such as Edgar, or Williams, are very chary about advising the passing of the hand into the uterine cavity, but are quite free with the forceps. Of course forceps may be boiled, but so may be gloves. Again, it is said that the pressure of the grasping hand affects the circulation, and endangers the life of the child, but forceps also produce some pressure. In the hand, we have an intelligent instrument with no sharp edges to injure the soft parts; in the forceps a steel blade that is more apt to leave its mark. The amniotic sac in which the operating is done is expelled from the uterus with placenta, and furnishes some protection. These are some of the premises which led to the method of procedure in the cases to be cited presently.

In following current literature during the past year, I found but one writer who took the position that more hand work should be done within the uterus, viz., J. Lamond Lackie, assistant physician, Royal Maternity Hospital, and Lecturer in Obstetrics and Gynecology, in the Royal College, in the Edinburgh Medical Journal for January, 1907. One of his cases reads as follows:

"Mrs. W. age 30, 2-para, expected her confinement on 10th of October, but did not take place till 28th of October. Pains commenced at 2 A.M.; at 4 A.M., when I saw her, the os was nearly, but not quite fully dilated. Right occipito-posterior was the position. At 5 A.M., the membranes ruptured and the liquor amni began to trickle away. At 8.30 A.M., there was no change, except that the anterior segment had become edematous. Pains were not slight, and made no impression on the head, which remained at the brim. Under chloroform, forceps were applied, and, to my surprise, could not deliver the head. I then tried to rotate the child's head to the front, and at the same time endeavored to turn the shoulders by external manipulation, but though I could move the head, I could not turn the shoulders, and before I could get the forceps applied the head was back to its original position. Finally, I introduced my hand past the head and with two fingers on the right shoulder, and my left hand acting through the abdominal wall, with great ease I turned the child around, till it occupied the L. O. A. position. Once more I applied the forceps, and with comparatively little traction the child was born within three minutes. It weighed ten and one

half pounds, but seemed to have suffered no injury except facial paralysis, which passed off in three days. The mother had a normal puerperium. She was a woman of medium height, and had no pelvic deformity. I delivered her of her first child exactly four years previously, when the labor was almost normal, forceps being applied only to bring the head over the perineum."

After citing three similar cases he closes his paper as follows: "In all text books reference is made to artificial rotation of the head when it has reached the pelvic floor, and this is common practice, but only in a few, and these are foreign, is rotation when the head is high up recommended as a possible method of treatment. I am not sure that in this country the value of artificial rotation of the whole child when the head refuses to enter the pelvis had been duly appreciated. Under the circumstances, which prevailed in cases two and three, I should be inclined, if an R. O. P. were diagnosed early to again try a possible sacrifice of the child by version or a certain one by embryotomy."

Now some cases of my own:

Case 1. Mrs. E. G., age 27. Primipara, normal pelvis at full term. Was called at 9 P.M., May 8th, 1906. Pains moderate, but regular. External examination revealed cephalic presentation with back of child to the left and posterior extremities to the right and anterior, foetal heart sounds in left flank on a level with umbilicus. By vaginal examination cervix was found to be nearly obliterated, and slightly dilated. The anterior fontanelle was reached with difficulty, well back and to the left opposite sacro-iliac joint. Head freely movable in superior strait. Dia. of L. O. P. with tendency toward brow presentation was made. At twelve o'clock dilatation was size of silver dollar or larger and head a little lower and more sharply flexed as shown by position of smaller fontanelle. At 3 A.M. waters ruptured and dilatation was nearly complete. The pains were strong but accomplished nothing. Efforts were made by position of mother and by manipulations external and internal to assist anterior rotation, but without success. The mother was tiring, but not ready for anæsthesia to permit by bimanual manipulation the conversion of the posterior position to an anterior one, which I had determined to attempt. Two hours later, however, after no progress and inertia uteri beginning, consent was obtained and under complete anæsthesia and careful asepsis the right hand was introduced into the vagina, the head pushed back a little to allow the hand to pass on to the right shoulder which was forward and to the left. The head followed the body to L. O. A. position, was held there with the

left hand, the right withdrawn, and the patient allowed to come nearly out of anæsthesia. Vigorous contractions soon set in, the head engaged and descended in first position, and in thirty-five minutes labor was concluded in the normal manner, with a very slight laceration of the perineum. The recovery was uneventful.

Case 2. Mrs. C. E., age 31. May 26th, 1906. Multipara, normal pelvis, at full term, whom I had confined two and a half years previously, everything at that time being normal. Was called at 7 A.M., and found labor pains had just begun to be regular. External examination revealed cephalic presentation with back of child to right and posterior, extremities to the left and anterior. Foetal heart sound right flank and slightly below level of umbilicus. Examination per vagina revealed very little dilatation, the head high and movable, with the small fontanelle opposite right sacro-iliac joint. Dia. of O. R. P. Patient was placed in knee chest position, and instructions given to repeat at frequent intervals. Went away, but kept in touch as to progress. Returned at 11.30 A.M., found some progress, the head was lower, fontanelles were made out more easily, and occiput found if anything farther back than before and dilatation about half completed. Position and external manipulations were tried in an effort to turn the child anteriorly, but without success. The waters ruptured soon, but without effect other than perhaps making the pains more acute. At 3 P.M. the mother was getting tired and the pains ineffective. It was determined to try and convert the posterior into an anterior position as in case one. Under complete anæsthesia, and rigid asepsis the gloved right hand was introduced into the uterus, the head displaced upward and forward and to the right, the shoulder grasped and the child's body turned forward and to the right with greater ease than in case one. The head being placed in the right position (vertex) and held in place with the left hand, the right hand was withdrawn and the mother allowed to come nearly out of anæsthesia. Meantime, the contractions set in, retained the position and forced the head downward. The child was born in forty minutes in the normal way, and recovery was uneventful.

Case 3. Mrs. R., age 21. Primipara, at full term, normal pelvis. Was called at 5 P.M., April 24th, 1906. Pains regular, but not hard. External examination revealed back of child to the right and extremities to left. More than this I could not make out with assurance on account of sensitive abdominal walls and muscular spasm. By examination per vagina the cervix was found only slightly dilated with a soft part presenting, and a dia. of breech presentation was made with the sacrum

to the right and anterior. Progress was very slow, and the night passed with but little change. At 9 A.M. the cervix was about two and a half inches in diameter and pains strong and regular. At 2 P.M. dilatation was about complete and the waters soon ruptured. The presenting part had descended somewhat and the dia. was verified. There seemed to be partial extension of thighs, this pushed the breech well over on the right side of pelvic brim. The patient was becoming tired and after waiting another hour without progress it was determined to attempt a cephalic version. Under complete anæsthesia and rigid asepsis the left hand was passed into the vagina until the heel of the hand rested upon the breech, the fingers resting on the sacrum. The breech was now pushed upward and to the right, the right hand, in the meantime forcing the head downward and to the left. The version was easy, the head coming around to the superior strait, and upon withdrawing the left hand followed it into first position of the vertex. It was held there by the right hand until natural pains fixed it and began to force it downward through the pelvic canal. There was a tendency in this case toward prolapsus funi upon withdrawal of left hand, but this was easily overcome. Also at birth of the head the cord was found twice about the neck. Partial anæsthesia was kept up until the head was born. Otherwise labor was concluded in a normal manner in forty-five minutes, with almost no damage to the maternal parts, and recovery was all that could be wished for.

June 1, 1906. Case 4 is similar to case 1 and will not be related.

Case 5. Mrs. R., aged 20. Primipara at full term, with normal pelvis. Was called October 12th, 1905 at 5.30 A.M., after 20 hours of labor, a midwife having charge of the case, the mother was very tired and inertia uteri very plain. The head was found wedged in the pelvic canal with the occiput posterior. Under anæsthesia attempts to force the head upward were unavailing and the forceps were applied with the usual results of difficult delivery, laceration of the maternal soft parts, some marks of pressure on the child's head and a struggle to get the new life started. In this case it seemed as though the child never would breathe, and artificial respiration was kept up for full fifteen minutes before there was response and considerably longer before breathing was well established. Recovery of mother and child was good, but not as rapid as wished for.

Case 6. Mrs. C., age 22. Primipara, at full term with normal pelvis. Was called December 22, 1906, at 9 P.M. Pains had been regular for an hour or more. External examination revealed cephalic presentation with back of child to the

left. Foetal heart sounds on line of umbilicus and well to the left. By vaginal examination cervix was found obliterated and dilatation to the size of a quarter. The head was high and freely movable at brim of pelvis. The parts were sensitive and careful locating of fontanelle and tracings of sutures was difficult. However, a tentative dia. of L. O. A. was made, and progress awaited. At 1 A.M. there was slight progress. At 3.30 A.M. cervix was well dilated and head somewhat lower. Dia. was easy now and found to be L. O. P. instead of L. O. A. However, the pelvis was of good size and the child seemed not above normal, so progress was awaited in the hope that when the perineum was reached rotation would take place, meanwhile the patient was placed in knee chest position, and soon the water ruptured and the pains more plainly made out. In complete anæsthesia bimanual rotation could easily have been performed at this time in my judgment. The attempts that were made to assist rotation were unsuccessful. The pains were strong and regular and head advanced slowly getting more firmly wedged in the pelvic canal as time went on. After 8 A.M., there was no progress and at 10 A.M. forceps were applied and a very difficult delivery made, exhausting the operator, lacerating the maternal soft parts and leaving pressure marks on the child. Attempts were made at rotation with the forceps, but either from lack of skill or conditions present seemed likely to do more damage than a straight ahead delivery. In this case, also, the child's life was despaired of and required strenuous efforts for resuscitation. The mother's recovery was good but delayed, and the child, while the pressure marks disappeared the first day, the head is now unsymmetrical, and this possibly resulted from the pressure, though not assuredly. In my judgment internal rotation should have been made when the waters ruptured and the position corrected as in the previous cases. The mother would probably have been saved five or six hours labor and pain and a retarded recovery, while the child might have been spared a moulding and pressure that nearly cost its life.

Two more cases might be cited, but those already given are sufficient to introduce the points we have to make.

These experiences, though too few in number to base conclusions on, have led me to think that perhaps we are a little too ready with our forceps, and not apt enough with our hands. The difficulties in performing these operations from contraction of the uterus, and pressure so often spoken of are greatly reduced if the woman is in complete anæsthesia, as previously mentioned. That, I believe, is one of the most important points in the work.

Summing up, it may be said in favor of artificial rotation as above described, That:

1. Nearly all if not all occipito-posterior positions can be converted to normal occipito-anterior positions.

2. Bimanual manipulation carries into the uterus a more intelligent instrument than a forceps blade.

3. When accomplished, an unfavorable presentation has been converted into the most favorable one with the least damage to maternal tissues, and without injury to the child.

4. That forceps may be dispensed with, or used in an easy delivery.

5. The tendency to extension of the head and brow presentation, by the occiput dropping over the posterior brim of pelvic cavity, is overcome and an occiput-frontal circumference is changed to a subocciputobregmatic, when brought into relation to the superior strait.

6. The shoulders are brought with ease out of the hollow of the false pelvis in which they rest, and from which it is so difficult to rotate them by external manipulations.

Unfavorable to the operation might be mentioned:

1. Greater danger of sepsis, but this, I think, is more apparent than real.

2. Tendency toward encouragement of meddlesome midwifery. In this connection it must be recognized that the great majority of occipito-posterior cases rotate forward spontaneously when the vertex reaches the pelvic floor. However, these cases as a rule are more lateral or transverse than posterior, and engage and descend quite readily into the pelvic canal. Again these cases usually begin to rotate forward with the beginning of descent, while the persistent posterior case settles back farther into the hollow of the sacrum.

3. Prolapsus funi. There is some danger of this, but no more than with podalic version and is just as easily overcome as in the other operations.

4. Possible rupture of uterine wall, whether in danger from:

- a. Absence of amniotic fluid.

- b. Very thin uterine wall.

- c. Persistent spasm of uterus.

The time for the work is as soon as an occipito-posterior position is inevitable. The particular class of cases; "those which float about the brim of pelvis and do not readily engage."

Since the original presentation of this paper, I have had several similar experiences, the recounting of which would mean simple repetition. My practice is now limited to surgery and gynecology, but if I were to go on doing obstetrical work, I should certainly, in the light of past experience, make use of the

above suggested procedures in the management of occipito-posterior cases. The greatest danger in this work, to my mind, is from those who have not had a thorough surgical training attempting to do the work, and not following a rigid technic with reference to asepsis.

I wish to commend the excellent paper by Dr. John W. Cogswell, of Iowa City, Iowa, read before the Obstetrical Society of the A. I. H. at its last session in Chicago. At that time the author, Dr. Cogswell, took the advanced stand, "that all occipito-posterior positions could be changed to the normal occipito-anterior ones." I am not sure that I would be willing to subscribe to so sweeping a statement as that, but nearly all, if not all of these abnormal trying presentations can be converted to normal ones in my opinion. As I understood Dr. Cogswell, he does his work entirely with forceps, making a cephalic application (handles posterior) and by means of traction rods obtains descent and rotation at the same time.

Dr. H. J. Tunstead, of Minneapolis, is doing the same kind of work in these cases. Personally, I have never used this method, probably due to the fact that I have not felt skilled in the use of forceps in that application. However if failure should be met in bimanual method described above, I should certainly try to do a forceps rotation.

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## PAIN IN THE RIGHT LOWER ABDOMINAL QUADRANT\*

By CLIFFORD DAWES HARVEY, B.S., M.D., Brookline, Mass.

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From time immemorial the presence of pain in the right iliac region has been of the greatest possible interest, not only on account of the difficulties attending its proper diagnosis, but also because of the gravity of the conditions signified thereby and their possibly fatal consequences.

Our present heritage of surgery has come down to us through a long period of years beginning at a time when abdominal surgery was unthought of and when many of the conditions were unknown, but were grouped together under that term which was almost synonymous with death — that dreaded term, inflammation of the bowels — when the diagnosis was made after peritonitis had begun and when the treatment offered no hope; following this through a period during which the pioneers of surgery, even in the face of the fiercest opposition from their colleagues as well as from laymen, dared to have the courage of their convictions and operate, not only saving many valuable lives, but also laying a foundation for all posterity to work upon, a foundation based upon the living pathology of the operating room. No honor is too great to accord these men, since by their untiring efforts we are now acquainted with the conditions which we may expect to find, and we have learned how unreliable are symptoms in telling us the true state of affairs within.

No area of the body is more interesting in its possibilities and nowhere is it necessary to draw finer diagnostic distinctions than in the lower storm center of the abdomen. A correct diagnosis must be promptly made, since so many of the conditions met with are fulminating in character and terminate speedily in death unless proper surgical treatment is instituted. Early surgical intervention may save weeks of invalidism from the necessary drainage, and possibly years of pain and discomfort from the adhesions which are almost certain to result from an attack of peritonitis. "Procrastination is the thief" of life in cases of abdominal disease, and in no class of cases is this more true than in those diseases affecting the right lower abdomen; nowhere is prompt surgical treatment better repaid; nowhere is delay more often followed by a fatal issue.

The number of conditions in which pain in the right lower

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\* Read before the Maine Homœopathic Medical Society, June, 8, 1915.

abdomen is a prominent symptom is large, and while we generally think of the most important of these, there are many others of which we must be cognizant lest we delay unwisely and lose the chance for proper medical or surgical treatment. We can separate the different diseases into medical and surgical classes easily, as a rule, most of the medical diseases being readily diagnosed; when it comes to differentiating the surgical conditions it is a task requiring painstaking examination and the ability to draw correct conclusions from the presenting symptoms which many times are all too few. Many cases can not be diagnosed until the abdomen has been opened; under the present technic of the surgeon an abdominal incision can do no harm, and it is the course of wisdom to make an exploration in all doubtful cases.

For the sake of completeness let us run over the diagnostic points of the medical diseases affecting this region. They are pneumonia, pleurisy, lead colic and typhoid fever.

Right-sided pneumonia may present pain in the right side of the lower abdomen as a prominent symptom; this happens both in the case of adults and children, but is more common in children. There is tenderness in the region of McBurney's point, little or no rigidity, fever is present and the pulse rate is increased. An examination of the chest should be made in all cases showing right-sided abdominal pain. If pneumonia is present we shall find the signs of consolidation as shown by increased tactile fremitus, dullness on percussion, broncho-vesicular breathing, and rales. If a blood examination be made we shall find a very high leucocytosis. The character of the pain differs from that of abdominal disease, as it is not of a crampy nature and is not affected by the position of the legs. The reason for the pain being referred in this manner is due to the fact that the abdominal muscles derive their nerve supply from the lower six thoracic and the first lumbar nerves, and irritation of these nerves in the thorax produces a pain which is referred to the terminals of these nerves.

For the same reason as noted above, pleurisy on the right side often produces pain in the right lower abdomen. This pain is worse on respiration, at which time a to and fro friction rub may be detected by the application of the stethoscope to the side of the chest affected; pain and friction rub disappear in a few days with the appearance of an effusion which is shown by loss of tactile fremitus, loss of breath sounds, flatness on percussion over the area of the fluid, increased tympany on percussion above the upper level of the effusion and dullness or flatness in the paravertebral triangle of the opposite side — Groccos triangle. Radiographic examination may show the

presence of a shadow. Exploratory puncture and withdrawal of fluid settles the diagnosis absolutely.

In some cases of lead colic the major part of the distress will be in the right lower abdomen. History of occupation, obstinate constipation and the presence of the lead line on the gums gives the diagnosis; blood examination shows a peculiar stippling of the red cells and a state of secondary anemia, and examination of the urine will show the presence of lead. Cramps of the various muscles and numerous nervous phenomena are present, the first one to manifest itself being paralysis of the musculo-spiral nerve as shown by wrist drop.

Of all medical diseases typhoid fever is the hardest to differentiate from some of the surgical lesions; typhoid ulcers often occur in the appendix and run the normal course of a typhoid ulcer elsewhere, not requiring operation unless perforation takes place, which is very infrequent. This condition is sometimes mistaken for appendicitis, with which it has some symptoms in common; constipation is present, coated tongue, slight rigidity over the right iliac fossa and some pain in the region of McBurney's point, but not as severe as the pain of a frank attack of appendicitis. In typhoid fever the rise in temperature always appears before the pain, while in appendicitis the reverse holds true, the pain being the first symptom. The presence of rose spots and of the typical slow pulse of typhoid are good differentiating points, while the leucopenia and a positive Widal complete the diagnosis. The perforation of a typhoid ulcer in the appendix or elsewhere demands immediate operation; this unfortunate event is shown by a sudden sharp pain, fall in blood pressure, rapid drop of the temperature to sub-normal and collapsic symptoms, to be followed in a short time by increased temperature, increased tympany, obliteration of the liver dulness, leucocytosis and signs of localized or general peritonitis. We should not wait for the symptoms of peritonitis to appear before making a diagnosis of perforation, for if we do all chance will be lost. A small percentage of cases are saved by immediate operation and it offers a chance, which, while not a very brilliant one, should be taken in the interest of the patient, for without surgical intervention there is no hope for any but a fatal result.

The number of surgical diseases which produce pain in the right lower quadrant is much larger, the most important of which are appendicitis, Lane's kink, diverticulitis, tuberculosis of the cæcum, gall bladder disease, perforated gastric or duodenal ulcer, tubal disease, tubal pregnancy, ovarian cyst, floating kidney, renal calculus, hydronephrosis, mesenteric embolism, and hernia.

In all conditions affecting this region a pelvic examination should be made as well as a complete examination of the urine, and, if time and facilities permit, a blood examination.

Appendicitis is the most common affection of this region and also the most treacherous and deceptive disease with which we have to deal. Probably the first thought which comes to our minds when asked to see a case of pain in the right abdomen is that it may be an attack of appendicitis. This I believe is a good attitude for us to take, since if we are on the lookout for this condition we are more likely to give the patient a thorough careful examination and this with a proper interpretation of the signs and symptoms will give us a picture complex from which to make an accurate diagnosis whatever the condition may be.

In the acute attack of appendicitis pain is a prominent symptom, and while in the beginning it may be in the epigastrium or may be a general abdominal pain, it soon localizes over the region of McBurney's point, at times radiating to the front of the thigh. This pain may vary in severity from a mild, dull discomfort to a cramplike pain of great intensity, is subject to short periods of amelioration which are soon followed by exacerbations, and is better when the thighs are flexed on the abdomen. The pain always precedes any rise in temperature and is worse on pressure. Disappearance of the pain is a danger signal and is likely to mean that a gangrenous condition is present, since in such states the nerve filaments are dead and cannot conduct the sensation of pain to the brain. In this connection I might mention a sign which has been of service. It is the so-called Blumberg's sign and is elicited as follows: on placing the hand on the left side of the abdomen at a spot directly opposite to the McBurney point, and making pressure a pain is felt in the region of the appendix which is intensified on suddenly releasing the pressure; this sign when present points strongly to an inflammatory process of the appendix.

Tenderness on palpation and hyperæsthesia of the skin to touch are present being most marked over McBurney's point. Rigidity is present to a greater or less degree, its maximum point being over the same area. This phenomena should always be looked for by making simultaneous pressure with both hands, one on each side of the abdomen over corresponding points, making the same amount of pressure with each. In this way a small degree of rigidity may be detected which would escape unnoticed if only one hand were used.

As noted above, the increase of temperature comes late and indicates a retention of toxic matter in the appendix or the beginning of peritonitis; an elevated or a sub-normal tem-

perature is indicative of danger and is to be regarded with suspicion. Do not be misled and think that a patient with a normal temperature and a normal pulse rate is devoid of danger, for such is by no means the case as a very bad condition may exist with apparently no symptoms. The pulse rate will increase slightly as time goes on; an increasing pulse rate with a falling temperature means trouble which is likely to take the form of a perforation or of a gangrenous condition; in the gangrenous process the lymphatics are destroyed, no absorption is going on, the temperature falls to normal or below, and the patient is in a critical condition. A chill or a series of chills coming at any time is a danger sign which means that there is pus under tension somewhere, which pus is being absorbed as will be shown shortly by an elevation of temperature. The condition of the intestinal tract varies. Generally we have the history of a long period of constipation, but in many cases, particularly in children, we have the onset of the attack ushered in by a severe diarrhoea, and here let me state as a clinical fact that an attack of appendicitis which begins with diarrhoea will be an extremely dangerous case with which to deal, the pathological changes being of a superlative degree and taking place rapidly. In children jaundice is oft-times present at the beginning of an attack, and it is probably dependent upon a mild degree of catarrhal cholecystitis due to the general catarrhal condition of the gastro-intestinal tract. Vomiting is a frequent symptom at the beginning, soon ceasing permanently unless the case goes on to peritonitis.

I would impress upon you the fact that appendicitis is from its very inception a surgical disease and of such a protean nature that we cannot tell by signs or symptoms the real process which is present; we cannot tell whether the attack will progress or subside. There is no index to the severity of the condition except the condition itself, and that is only appreciated after the abdomen has been opened. The mortality in early operation is practically nil, while in cases which put off this event until late it is very high.

Cases of chronic appendicitis present a very different train of symptoms, consisting of dull, heavy pain or discomfort in the right iliac fossa, with tenderness, both of which are more or less constant; constipation is of a stubborn nature and there is much flatulence, with many stomach symptoms such as foul breath, coated tongue, distress from food, sour stomach and belching of gas. These appendices may light up at any time into acute fulminating attacks and at operation show the presence of constrictions in the lumen, fecal concretions, or both.

In the last few years we have learned of the Lane kink, the presence of which is productive of so much trouble. The symptoms are practically those of chronic appendicitis, with which in fact it is commonly associated. The kink itself consists of a band of adhesions which is attached to the ileum at a point about four inches above the ileo-cæcal valve, drawing this point downward and backward and binding it to the posterior abdominal wall; this produces a V-shaped distortion of the ileum and causes the prominent symptoms, which are those of obstinate constipation and auto-intoxication. An X-ray taken after a bismuth meal will show the deformity of the ileum.

About two per cent of human beings possess that remnant of foetal life which rejoices under the name of Meckel's diverticulum and which is located on the ileum from 25 to 35 inches above the ileo-cæcal valve. Acute inflammation of this structure takes place at times, with symptoms which we cannot differentiate from those of acute appendicitis; at operation, therefore, on finding an appendix which is normal we must not lose sight of the fact that there may be a diverticulum present; X-ray after a bismuth meal might possibly show the offending member.

A contracted psoas parvus tendon gives symptoms similar to those of chronic appendicitis, and, if we can judge from some of the recent reports, seems to be fairly common. The contracted tendon causes a fold in the posterior wall of the cæcum, not allowing this organ to empty itself readily, and the result is foul breath, coated tongue, more or less continuous pain in the right iliac region and symptoms of auto-intoxication due to retention of the fecal stream; the pain is made worse on walking or on extending the leg and is better from having the leg flexed slightly on the abdomen. The condition cannot be diagnosed before opening the abdomen.

Tuberculosis of the cæcal region gives pain in the area under discussion, and as differentiating points we have the following facts: the condition comes on gradually and is accompanied by severe loss of weight, weakness, anemia and dyspnoea; diarrhoea may occur intermittently; the fever assumes the tubercular character and the leucocytes are normal or sub-normal in count; often a mass can be made out in the cæcal region. In many cases we can obtain a history of a previous pleurisy or can find signs of an active process in the lungs.

Gall bladder disease, cholelithiasis and catarrhal cholecystitis may at times produce pain low down on the right side, but such is not commonly the case. Many symptoms simulating appen-

diceal involvement are present, such as discomfort in the stomach, water brash, flatulence, etc. Accompanying these are the signs which indicate the proper diagnosis, namely, enlargement of the gall bladder, pain at the tip of the right shoulder and at the lower angle of the right scapula, sensitiveness to pressure just below the tip of the ninth rib on a line toward the umbilicus, and tenderness over the same area on inspiration when using the finger hook method. Jaundice may or may not be present, but it is not necessary for a diagnosis; it will not be present unless the common duct is occluded. Constipation is generally marked and the stools are light in color. The attacks of gall stone colic come on with some regularity, often following a full meal, and frequently coming in the night. As soon as the stone ceases to move, the pain ceases, to begin again when the calculus resumes its journey. Rigidity is found to be over the upper part of the right rectus muscle. If infection be present we shall have severe chills and great increase in temperature, the paroxysms simulating somewhat the attacks of malaria, but careful examination will disclose the signs mentioned above, and the diagnosis should then be clear. Radiographs will at times show a shadow if there be a large amount of mineral matter in the stones; cholesterin stones are quite common and do not show in the radiograph, therefore a negative X-ray means little when considered with the other signs.

Gastric and duodenal ulcer may and often do exist and give rise to no symptoms until the unfortunate event of perforation takes place. If the ulcer be in the region of the pyloric end of the stomach or in the duodenum, the fluid gravitates to the right iliac fossa owing to the arrangement of the transverse mesocolon at the pyloric end of the stomach, and symptoms suggestive of perforation of the appendix supervene. The violence of the symptoms is very great and we find a condition of profound collapse, sub-normal temperature, intense pain and board-like rigidity all over the abdomen; there is general abdominal tenderness but it is more marked over the upper part of the right rectus muscle; a spot of tenderness may be present over the tenth dorsal vertebra posteriorly. One case upon which I operated had the area of greatest tenderness and rigidity over the region of McBurney's point, the ulcer being found on the anterior wall of the stomach near the pylorus with an area of induration  $1\frac{1}{2}$  inches in diameter having a perforation  $\frac{1}{4}$  inch across. This case could give no history of any symptoms or any illness previous to the time of perforation, at which time he fell to the ground in a state of collapse; following laparotomy he recovered completely. Unless we have some of

the symptoms of gastric or duodenal ulcer present in the history, the diagnosis of perforation of the same is a matter of extreme difficulty and many times cannot be made, but all the signs call for immediate abdominal section, and these signs should be heeded lest a fatal result ensue. Peritonitis does not supervene as soon after perforation of the stomach and duodenum as it does after perforation of the appendix, due to the smaller number of bacteria set free in the abdominal cavity, and the lesser toxicity of the intestinal contents high up in the gastro-intestinal tract.

Inflammatory disease of the right tube gives rise to a set of symptoms simulating closely appendicular trouble. Many times we have a history of much pain at the time of the menstrual flow, irregularities of the flow, and the presence of a leucorrhœal discharge; the temperature and pulse rate are both elevated; the pain is very acute and is low down, the point of maximum tenderness being below McBurney's point, nearer to the middle line, deep in the pelvis, and is better on having the legs flexed. Rigidity is present, although it is less marked than in an acute attack of appendicitis and it is likely to be bilateral, as both tubes are apt to be affected simultaneously. Bimanual examination shows a uterus more or less fixed, tender, indurated masses on one or both sides and possibly an accumulation of fluid in the cul-de-sac of Douglas.

Tubal pregnancy and rupture of the pregnant tube are two grave conditions which when occurring in the right tube give pain in the region under discussion. It is of great importance that these lesions be recognized at once as delay may mean a fatal result. In tubal pregnancy we have a fairly constant train of symptoms: the patient, if a multipara, will tell you that she feels as she did when pregnant before, or will complain of indefinite abdominal symptoms; the presumptive signs of pregnancy are present, such as morning nausea or vomiting, enlargement of the breasts, pigmentation of the nipples, etc., and there is a history of one or more missed menstrual periods, or that the menstrual flow appeared at the usual time, consisted of a small amount of bloody discharge and lasted only a few hours. Pain is low down on the right side of the abdomen and also in the pelvis, is sharp and cramplike at times, made worse by jars, worse when the bowels move, and in fact worse from anything that brings any strain on the abdominal muscles thereby increasing the intra-abdominal pressure; the temperature is normal and the pulse rate is not disturbed unless rupture takes place. Periodic, irregular flow of blood is the most important sign and one which demands immediate pelvic

examination. Bimanual examination shows a uterus somewhat smaller and firmer than one would expect from the history, and the presence of a sensitive mass in the right lateral region which varies in size according to the age of the embryo. There is no rigidity in the normal case.

When rupture of the pregnant tube occurs we get a history of one or more sharp, stabbing pains, and the patient goes into a sudden collapse possibly becoming unconscious, abdominal rigidity occurs, the area over the ruptured tube is very tender, pulse is rapid and weak, temperature sub-normal, skin cold, clammy and very pale; the mucous membranes are very pale, showing plainly the great degree of anemia. Bimanual examination shows the signs as noted above and also the presence of fluid in the cul-de-Sac of Douglas; percussion of the abdomen shows that it contains free fluid. The treatment is obvious, — immediate laparotomy.

Cystic disease of the right ovary will cause pain in the right side, this pain being lower down and nearer the middle line than McBurney's point; this condition is often associated with a chronic appendix, and when such is the case the diagnosis is not always easy. The pain is not as severe as the pain of inflammatory conditions, neither is there as much tenderness; the diagnosis rests almost entirely upon the findings from bimanual examination, which will show the presence of a mass to the right side of the uterus, round or oval in shape, tense, and giving a sense of fluctation. If this ovarian cyst becomes twisted upon its pedicle a far different train of symptoms is developed: the pain becomes severe and cramplike and is better with the knees pulled up, rigidity is present, tenderness is acute, and increase in the size of the abdomen occurs. The pulse rate and the temperature are disturbed early, peritonitis begins promptly, owing to the blood supply being partially or wholly cut off, and a gangrenous process will manifest itself quickly. Again we must depend mostly upon the bimanual examination for the diagnosis.

A movable right kidney often causes pain in the right lower abdomen. In such cases we can palpate the kidney, sometimes finding it to be as low as the anterior superior iliac spine. The symptoms complained of would make one think at once of appendicitis, but there is no rigidity and the pain is not influenced by the position of the legs. The pain is of a dull, heavy, dragging variety and ceases almost instantly when the kidney is restored to its normal position; in thin people it is possible to outline the kidney through the abdominal wall, and palpation of the misplaced organ is accompanied by a

peculiar sickening sensation; neurotic symptoms are legion and loss of weight occurs in some cases; fever is not present, neither is leucocytosis. In cases in which the ureter becomes kinked following exertion or accident, we have the Dietles Crises manifesting themselves with symptoms of severe pain, collapse, nausea, vomiting, and suppression of urine, which is followed by a profuse flow of urine often containing blood; all the symptoms cease suddenly when the kinking of the ureter is relieved.

The presence of a renal calculus passing through the right ureter produces pain in the right lower abdomen when the stone is travelling through that portion of the ureter contained in the right lower quadrant. The pain radiates downward to the right groin and testicle, is accompanied by nausea, vomiting and straining, and constantly gets lower and lower as the stone continues its journey toward the bladder; if the stone stops during its descent the pain ceases only to reappear as soon as it resumes motion; the termination of the attack is sudden at the time when the calculus enters the bladder. Rigidity is present and the point of maximum tenderness changes from time to time as frequent examinations are made; the temperature is not disturbed unless collapsic symptoms result from the severe pain, in which event it will be sub-normal. Suppression may occur to be followed by a profuse flow of urine containing microscopic and sometimes macroscopic blood, small portions of the calculus, and crystals of phosphates and oxalates. Radiographic examination may show a shadow of the stone.

Fist percussion over the kidney region will produce a sharp intense pain in the kidney whose ureter is blocked. This sign is present in any case in which the pelvis of the kidney is distended, no matter what the distending agent may be, blood, pus, urine or calculus, and is negative in other conditions, thus giving a valuable differentiating sign.

Right inguinal hernia will cause pain in this region; these pains are not associated with tenderness or rigidity, are of a dull, dragging character, are intermittent, and are not accompanied by any change in the pulse or temperature. An examination of the patient in both the supine and the standing positions will show a weakness of the inguinal rings or an actual bulging to a more or less degree, and a cough impulse may be present.

It is impossible to enumerate all the signs which may accompany abdominal disease; each case has its own personality and no two of them are alike; two or more conditions may coexist, rendering the diagnosis extremely difficult or impossible. All cases require careful study and attention to

details, and the time spent is well repaid by the result of the institution of proper treatment, the speedy restoration of the patient to full and complete health.

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## TABES DORSALIS AND DEMENTIA PARALYTICA IN THE LIGHT OF PRESENT KNOWLEDGE\*

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It is not my purpose to discuss these wrongly so-called parasyphilitic diseases from all aspects, but to confine myself chiefly to their etiology, some of the laboratory tests used in their diagnosis, and one phase of their treatment. Our knowledge of these branches has been widened by recent discoveries, and to these I wish especially to call your attention.

### ETIOLOGY

The two diseases included in the term parasyphilis are tabes dorsalis or locomotor ataxia and dementia paralytica or general paralysis of the insane. The prefix *para-* indicates the conception prevalent not very long ago concerning the nature of these diseases. They were regarded as appearing frequently in syphilitics, although themselves not directly syphilitic in nature. Syphilis and, in a lesser degree, other poisons were supposed to exert a predisposing influence, either by weakening the general health or by degrading the affected tissues and making them especially vulnerable. The immediate cause of the disease was unknown.

The frequent incidence of syphilis in the previous personal history of tabetics was first called attention to by Fournier in 1875. As the years went by, increasing percentages of the disease were considered to be founded upon a luetic basis. Church,<sup>1</sup> as late as 1908, wrote about tabes: "It is safe to say that, practically, nine out of ten cases are syphilitic, and that the tenth case is open to very serious doubts if it occurs under ordinary circumstances of life." This shows that even without

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\* Read before the Western Homœopathic Medical Society.

decisive proof the true nature of locomotor ataxia and general paralysis was more and more appreciated.

The final proof was established in 1913, when Noguchi,<sup>2</sup> assisted by Moore, demonstrated the presence of the *treponema pallidum* in the brains of paretics. Twelve cases out of a total of seventy yielded successful results. In a later series of 130 cases reported by Noguchi,<sup>3</sup> the *treponemata* were found in 36 brains, and also in the posterior columns of one case of a group of twelve tabetics. Prior to this second report by Noguchi, Forster and Tomaszewski<sup>4</sup> and also Berger<sup>5</sup> obtained brain substance from living paretics by means of puncture of both frontal lobes. This was injected into the testicles of rabbits and caused syphilitic lesions in some of them. Levaditi produced scrotal syphilis in a rabbit with the blood from one case out of six, and, later, he with Marie and Bankowski<sup>6</sup> found *treponemata* in the brains of eight out of nine paretics who had died from one to fourteen months after the onset of the cerebral symptoms. In another communication the same authors report the demonstration of *spirochætæ* in paretics' brains by means of the dark field.

These and similar reports from the pen of other investigators corroborate Noguchi's work and, collectively, establish the direct etiological relationship between *treponema pallidum* and *tabes dorsalis* and general paralysis. This knowledge compels us to abandon the name *parasyphilis* as applied to these diseases, because they are not separate disease entities following in the wake of syphilis, but a part of it. They form the final chapter in the life history of many cases stricken with this protean affliction.

#### DIAGNOSTIC LABORATORY TESTS

One of the greatest advances in the study of syphilis was the application of the Bordet-Gengou phenomenon to its diagnosis. This was done first by Wassermann, whose name is associated with the test elaborated by him. For technical details I must refer to the proper books, since neither time nor circumstances warrant their presentation here.

The Wassermann test makes its appearance as soon as the infection with the *treponema pallidum* becomes general. In the primary stage, therefore, the percentage of positives increases with the progress of the disease, beginning with zero before generalization and progressing steadily to the high figures (90 to 100 per cent.) of the secondary stage. Then there is a slow and gradual decline to approximately 70 per cent. which figure, roughly speaking, obtains during the tertiary stage.

The percentages of positive Wassermann reactions given for general paralysis and locomotor ataxia vary somewhat with the authors who report them, but may be put at about 80 per cent. in paresis, and 60 per cent. in tabes. The cases with a negative Wassermann test may be diagnosed by an examination of the spinal fluid. This should always be resorted to, both for diagnosis and especially for controlling treatment. Lumbar puncture is not a formidable operation at all, and the valuable information gained from a study of the spinal fluid is out of all proportion to the evanescent and, usually, negligible discomfort caused. Grazing of one of the many escaping branches of the cauda equina will cause sharp, even excruciating pain to dart down into the leg of the same side. In my experience this objectionable accident was not uncommon when the needle was thrust in at one or the other side of the median line. More recently, however, the chosen point of entrance has always been the space between two adjacent spinous processes, usually those of the third and fourth lumbar vertebræ, exactly in the median line, whereby the mishap has, thus far, been avoided, so that the pain due to the puncture itself is usually not much greater than that occasioned by the application of ethyl chlorid. Indeed, several patients have assured me that there was no pain at all, and others have said that the prick of the ear with a blood lancet was more objectionable.

It is usually easy to feel the needle enter the spinal canal, because the dura gives way suddenly and, sometimes, with a distinctly audible click. When the plunger is withdrawn from the needle, the normally clear and colorless spinal fluid, if under normal pressure, will escape at the rate of about 30 to 60 drops per minute. In tabes dorsalis and general paresis there is, as in normal fluid, no color and no turbidity; the pressure, however, is usually moderately increased and causes the fluid to trickle out pretty lively at first. Our present means of measuring the pressure are not accurate. In fact, I am of the opinion that the various devices for the purpose are not much better than a guess at the pressure from observing the rapidity of the flow of the fluid. Because of the increased pressure it is my custom to withdraw 5 cc. for subjection to various laboratory tests.

First of all, the number of cells per cmm. is determined as soon as possible. Normally this number does not exceed eight or, at the most, ten, and comprises chiefly lymphocytes, with, perhaps an occasional endothelial and ependymal cell. The fluid of tabetics and paralytics contains usually from twenty to eighty cells, chiefly lymphocytes, per cmm., although normal counts or figures beyond 100 may be encountered.

Hand in hand with the high cell count, and of the same import as an indication of meningeal irritation, goes an increase of globulin. We have several globulin tests adapted especially for discovering an increase of this normally present protein in the spinal fluid. The simplest is Nonne-Apelt's Phase I. The excess of globulin is precipitated by means of half-saturation with ammonium sulphate. Noguchi's butyric acid method, also easy to do, has been over-sensitive in my hands. In Lange's test a red liquid containing colloidal gold is decolorized if the gold is precipitated by an excess of globulin in the fluid. The reagent for this test is difficult to prepare, and although the results are good, I doubt that they are ample reward for the time and labor expended.

Finally, and most important, the spinal fluid of tabetics and paretics shows usually a positive Wassermann reaction, and not infrequently is this the case when the test is negative in the blood serum.

These four reactions: an increased cell count, increased globulin, a positive Wassermann test in the serum, a positive Wassermann test in the spinal fluid, are of the utmost importance in the diagnosis of locomotor ataxia and general paresis, and it is exceptional to find a case of these diseases that shows the absence of all of them. The allergic skin reaction (luetin test) of Noguchi, although less reliable in these conditions than in the ordinary types of tertiary syphilis, should nevertheless prove of diagnostic value in many cases.

#### TREATMENT

It is folly to say that the recognition of the true nature of these maladies and the consequent employment of antiluetic therapeutic measures has made the older educational procedures superfluous. They are still valuable as adjuncts and as a means of training certain fibres to take up the function of their destroyed fellows.

Although the results obtained from the therapeutic employment of salvarsan and neo-salvarsan, with or without mercury and potassium iodid, are far from ideal because of the inaccessibility of nerve tissue from the blood stream, yet they are undoubtedly much better than those obtained without the use of these drugs. The general belief that salvarsan acts as a direct treponemacide lacks final substantiation. Weisbach<sup>7</sup> theorizes that the influence of the drug on body cells may express itself in the elaboration of substances inimical to the treponemata, but the decision for or against this theory depends upon the outcome of future experimentation. Plans for this

research, which has an obvious bearing on homœopathy, have already been formulated and will be carried out at the Evans Memorial as soon as time permits.

The intravenous route is the universal one employed at present for the administration of Ehrlich's arsenical preparations. The drug is usually dissolved in a large amount of fluid, in accordance with directions furnished by the manufacturers. Recently, however, I have used 35 cc. of doubly distilled sterile water as solvent for both drugs, after the example of some German clinics. The advantages of this procedure, e.g., elimination of cumbersome apparatus and saving of time, may prove to be outweighed by the increased danger of local reactions due to the occasional leakage of such a concentrated solution into the subcutaneous tissue. The advocates of this method give increasing daily doses until a certain amount has been taken, whereas the more voluminous higher dilutions, used by most men, are given at weekly or longer intervals.

A course of treatment applicable to locomotor ataxia and general paralysis may be outlined as follows. An examination of the blood serum and spinal fluid precedes the treatment, both for diagnosis and for comparison with similar future examinations. The first dose of salvarsan should be 0.2 gm., of neo-salvarsan 0.3 gm. If no febrile or other reaction follows this, it is followed by a second injection in a week or ten days and a third a like length of time after the second. The dose is increased each time, but should not exceed 0.6 gm. of salvarsan or 1 gm. of neo-salvarsan. Even these amounts are, perhaps, too large for some of the cases, especially if extensive nerve degeneration, arterial scleratherosis, or serious cardiac or renal disease are present. In these conditions great caution is necessary, and the drugs may be contraindicated altogether.

When the series of three treatments has been given, another set of examinations is made, and the patient is put on mercury\* and potassium iodid in increasing doses. This, with the usual general hygienic and special educational measures, is kept up for two or three months; then the serum and spinal fluid are again examined, and another course of salvarsan administered. The duration and intensity of the treatment depend entirely upon the results obtained and especially upon the influence on the laboratory tests. Each case must be considered individually, since no two are exactly alike.

As already stated, the results are far from ideal, so that too much must not be expected from these measures. It has been my custom to tell the patient, or those responsible for him,

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\* Mercury should be given intramuscularly or by inunctions. Its oral administration, though convenient, is the least efficacious method.

that the treatment is worth trying because it is the best thing we have to offer at this time, but that nothing definite can be promised. Personal experience and the study of a large number of reports bring the conviction that both of these diseases, but especially tabes, are sometimes markedly retarded in their progress, and many of the symptoms may be relieved. On the other hand, there are cases showing not the slightest beneficial influence, either clinically or from the laboratory standpoint. These are, fortunately, in the minority, and comprise chiefly cases of general paralysis.

In July, 1912, Swift and Ellis<sup>8</sup> advocated the intraspinous injection of serum that was obtained one hour after salvarsan had been administered. The results obtained by this procedure, as reported by these two men and afterwards by several others, were claimed to be superior to those arrived at any other way.

Briefly, the technic is as follows: salvarsan or neo-salvarsan is given intravenously as usual. One hour, or as is now advocated, twenty minutes later, about 30 cc. of blood is drawn from the other arm. The blood is allowed to stand over night at room temperature to permit the separation of serum. 12 cc. of this is mixed with 18 cc. of normal salt solution and heated to 55° for one hour. Lumbar puncture is done, and the serum-saline mixture is allowed to run into the spinal canal by gravity after an equal amount (or less, if pressure is low) of spinal fluid has been withdrawn. The foot of the bed is elevated and pillows removed, so that the injected fluid may gravitate to the upper portions of the canal. The beneficial effects are supposed to be derived from the arsenic contained in the serum.

More recently, dilute solutions of neo-salvarsan (salvarsan is too dangerous) in saline or serum have been injected directly. If there is any merit in either method, the latter would seem to be more efficacious because of the necessarily greater quantity of drug introduced.

The reports concerning the results obtained through these intraspinous injections are not at all convincing, particularly in the absence of proper control cases treated otherwise in exactly the same manner. It is my opinion, based in small part upon a very meagre experience and chiefly upon conjecture, that the benefits derived from these measures are due to the intravenous injections and not the intraspinous ones. Final judgment must be held in abeyance, however, until further and more convincing evidence can be adduced.

## RESUME

1. Tabes dorsalis and general paresis are true syphilitic diseases, due to the presence and direct activity of the *treponema pallidum*. Therefore, the term *parasymphilis* is incorrect and obsolete.

2. Examination of the blood and particularly of the spinal fluid is of the highest importance in the diagnosis and even more in the prognostic control of the treatment of these phases of syphilis.

3. They may be influenced favorably by antiluetic therapeutics.

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## THE PHYSIOLOGY OF THE LIVER\*

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At the request of Dr. Martin, our president, the following concise statement of the facts pertaining to this great organ will be presented. As far as possible simplified terms will be employed.

Five things are noteworthy in this connection. (1) The very important place which the liver occupies among the body glands, as based on its size, the number of its cells, and its great blood supply. (2) Its cells are invariably uniform in their histological structure, and probably so in their function, thus unlike the submaxillary glands and the pancreas, each of which possesses cells of at least two physiological types. (3) Its great afferent blood supply consisting of the portal vein and the hepatic artery. The former brings to it from the intestinal stream sugar in the form of dextrose and amino-acids which are the split products of proteid digestion. The latter brings the arterial blood with an abundance of contained oxygen. (4) Its small efferent blood stream, the hepatic vein. (5) Its bile capillaries which arise between the separate cells and converge ultimately to form the hepatic duct.

\* Read before the Mass. Homœopathic Medical Society, October 13, 1915.

## I. PRINCIPAL HEPATIC FUNCTIONS

Both metabolism and secretion characterize the life of the hepatic cells. Glycogen, dextrose, and urea are really "internal secretions" as based on the newer classification.

*Proteid metabolism.* This involves the further metabolism of the digestion products on the one hand and the terminal metabolism of many of the products of nitrogenous metabolism in other tissues, e.g. muscle. In perfusion experiments, where the defibrinated blood of a well fed dog was passed through the "surviving" liver, it has been shown that the per cent of urea in such blood was thereby perceptibly increased. This is not the case if the blood be perfused through a "surviving" muscle or kidney, which demonstrates that these tissues or organs do not form urea as do the hepatic cells. Other similar experiments show that the hepatic cells can metabolize certain salts of the ammonium group (carbonate and carbamate) into urea by synthesis, through a process of dehydration. After the liver is extirpated, urea in the urine will rapidly diminish and ammonium salts will increase. Normally the ammonium content of the portal blood is often three to four times that of the arterial blood. After the liver has been extirpated, the amount of ammonium content in the general circulation increases to about the same per cent as that of portal blood, with frequently fatal results. Thus the liver seems to have the power of protecting the body from the poisonous effects of its own ammonium compounds. The intestinal digestion of proteid leads to the formation of amino-acids, which are organic acids containing one or more amino-groups ( $\text{NH}_2$ ) in direct union with carbon. A part of these are carried to the tissues of the body. Those not so used may be converted by the liver into urea. This would apply particularly to any excess of such materials above the immediate body needs. There is evidence that the body tissues form some ammonium compounds and also a special compound, — arginin, — through proteid change, and these in the liver are changed into urea.

*Carbo-hydrate metabolism.* To the hepatic cells the portal vein brings the products of carbo-hydrate digestion in the form of dextrose and possibly also levulose. In the liver, such substances are, by a process of de-hydration, changed to glycogen and stored in the hepatic cells. The amount of glycogen stored in the liver often reaches a volume of from 1.5% to 4% of the liver weight. Proteid cleavage and the resulting amino-acids previously mentioned probably also lead to glycogen formation. During the process of construction of glycogen from proteid, the latter is divided into two parts, nitrogenous and non-nitrogenous, and the latter is the probable source of the glycogen.

Fat seems to act more as a glycogen sparer by being oxidized in place of dextrose. Yet there is some reason for looking upon glycerin, a product of fat cleavage, as a possible source of glycogen but it is relatively very small at most.

*Conversion of glycogen to dextrose.* This is probably brought about through the action of an hepatic enzyme by hydration of the glycogen ( $C_6H_{10}O_5 + H_2O = C_6H_{12}O_6$ ).

In a liver removed from a living animal, the glycogen is quite rapidly changed to dextrose and ultimately is wholly so changed.

There is evidence that the internal secretion of the pancreas produced by the Islands of Langerhans (an hormone) exerts a restraining or inhibitory influence upon the paying out of the glycogen store by the hepatic cells. More research is needful in order to fully establish this view.

*Fat metabolism.* It is noteworthy that under some conditions, not always of a normal character, the hepatic cells store and possibly form fat (winter frog; wasting diseases, etc.). The liver contains an oxidizing ferment (B-oxybutyrase) which transforms B-oxybutyric acid into aceto-acetic or "Di-acetic" acid. This has been demonstrated to occur normally as well as in pathological conditions. There is some evidence that the liver also can transform the aceto-acetic acid into acetone (not an oxidative process and may be through some enzyme). This, however, is not understood to occur in normal katabolism of the fatty acids. The migration of fat to the liver cells, when the fat store is already large, is quite important in that here the fats are rendered more ready for use by the body tissues.

*Secretion of bile.* Apparently this is a continuous secretion from the hepatic cells, and their work is in part one of "synthetic" or constructive metabolism. The twenty-four hour secretion is estimated at 500–800 cc. Bile normally is from 97–97½% water. The important elements for our consideration are the bile pigment (0.25–0.34%), the bile salts (0.8–0.9%), and their formation in the hepatic cells.

*Bile pigments (Bilirubin and biliwerdin).* From the hæmoglobin freed from the wornout red discs by a series of steps, the hepatic cells form these pigments. Hæmatin is therein freed of its iron (the latter is largely retained for future use in the body) and converted into the bile pigments. Some of the latter may be re-absorbed from the intestine normally. A part of the hæmatin is derived from the red discs which undergo disintegration in the spleen. (Incidentally the true use of the bile pigment has not yet been accurately determined and is still in the theoretical stage. Some contend that it is purely an excretion.)

*Bile salts.* The hepatic cells form two very important and

characteristic salts of sodium, the glyco-cholate and the tauro-cholate, though the proportion of the latter is variable and may be absent at times. The writer will not weary you with a technical description of the formation of these bile acids (glyco-cholic and tauro-cholic). Suffice it to say that one or both result in part from autolytic action on one or more of the amino-acids (e.g. glyco-coll or amino-acetic acid).

The purpose of bile salts should be mentioned here; and they should not be considered simply excretory.

1. They serve as a solvent for the ever present cholesterin in bile.
2. They take a prominent part in fat cleavage and absorption in the intestine.
3. They aid in activating the pancreatic lipase (or steapsin).
4. They, and especially the tauro-cholate, serve to precipitate proteins in acid solutions (duodenal digestion).
5. They are partially re-absorbed to be again used in bile formation.

*Cholesterin.* Formed in various tissues in the body and simply excreted by the hepatic cells. Apparently its twentieth century function is to make business for the surgeon (gall stones). Why do the hepatic cells secrete bile?

Once it was deemed to be a process under the control of secretory nerves, but changes in secretory activity through stimulation of the cord or splanchnic nerves or their branches are shown to occur through vaso-motor influences. Hence the hepatic blood flow (rate and quality of blood) largely governs bile secretion. It is not necessary at this time to give an extended dissertation on the subject of cholegogues. Normally, bile is the best cholegogue (both its pigment and its salts). It is of much importance to note that the same hormone ("secretin") formed in the duodenal lining, which activates the pancreatic secretion as it comes into the duodenum, also reaches the hepatic cells through the blood stream and incites them to secrete bile.

## II. LESS WELL KNOWN HEPATIC FUNCTIONS

*Formation of fibrinogen.* This compound is present in human blood in from 0.22 to 0.40%. When the portal vein is connected with the inferior vena cava (Eck's fistula), thus experimentally eliminating or "extirpating" the liver, fibrinogen rapidly disappears from the blood plasma. In phosphorus poisoning, this also occurs and in chloroform poisoning with extensive necrosis of the central parts of the liver lobules, the amount of fibrinogen in the blood is rapidly reduced, and the

blood also loses more or less of its clotting power. Further, if blood from a dog is withdrawn portion by portion, defibrinated, and then returned to the blood stream, the missing fibrinogen is quickly restored. This does not occur when the liver has been thrown out of function (Eck's fistula).

*Formation of anti-thrombin.* In other years, most of us learned of fibrin-ferment, and today we hardly recognize our old friend by its new name, — thrombin, which, as you recall, is formed after the blood is withdrawn. It does not occur in the circulating blood, but there exists as pro-thrombin, an antecedent substance, and is furnished by the blood platelets. It is now believed by a goodly group of physiologists that the fact of the non-clotting of blood in the blood vessels is due to the presence of an anti-body in the blood stream, known as anti-thrombin, and it is clearly proven in the laboratory that this prevents thrombin, or fibrin ferment, from acting on fibrinogen. Experimental evidence is abundant that this anti-thrombin is formed in the liver (also in the uterus at menstruation).  
*Anti-toxic hepatic functions.*

1. Experiments, in which alkaloids like nicotine, strychnine, morphine, quinine, etc., were injected into the portal stream of an artificial circulation through the liver, showed that these substances are deposited in the hepatic cells and undergo chemical change, whereby their poisonous properties are lost. The metallic poisons are stored in the liver cells for a long period (e.g. mercury, arsenic, etc.)

2. The liver cells transform indol and phenol, which are produced in the intestinal tract by the action of bacteria on proteid, and thus protect the body against these poisons.

3. Reference has already been made to the metabolism of ammonium compounds by the hepatic cells into urea. When the liver has been removed, the accumulation of ammonium salts in the blood, with inadequate renal excretion, leads to somnolence, ataxia, convulsions, and coma. (Eclampsia?)

4. It is clearly shown that the liver reduces the activity of specific bacterial toxines, e.g. typhoid and tetanus. This is probably accomplished by oxidation.

5. There is credible evidence that some of the endothelial cells of the hepatic capillaries have marked phagocytic properties. They also may take a part in the destruction of the red discs.

In conclusion, as we carefully consider the large place occupied by the liver in the body physiology, the probability that many of the accepted opinions of the present will be modified by further research, and that there are, no doubt, other functions of this organ of which we know little or nothing, we may well exclaim, as did that noble queen, as she stood in the presence of the noted wise man of old, "the half hath not been told!"

## A BRIEF REVIEW OF THE SURGERY OF THE LIVER\*

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The surgery of the liver is essentially the treatment of surgical conditions caused by traumatism, new growths, or infections.

Accidents involving traumatic lesions of the liver are of a serious character, as the patient is likely to die within a few hours from hemorrhage and shock.

A case illustrative of such an accident was that of a porter run over by a cab in London. There was little external evidence of injury. Intense local pain was the chief symptom. Signs of internal hemorrhage were not evident at first, but appeared in half an hour. The right abdominal wall was freely incised transversely, and a large ragged laceration of the liver packed with gauze, the patient dying as the operation was completed. The operation occupied only ten minutes, but the preparation lasted an hour. Never have I seen so much time wasted in routine preparation in a case of internal hemorrhage.

New growths of the liver including telangiectasis, cirrhosis and cancer are among the "*noli me tangere's*" of surgery. Most tumors of the liver are secondary and therefore inoperable. The liver is vascular and fragile, and hemorrhage is controlled with difficulty. Small tumors have been removed successfully with the aid of the cautery (Percy or Pacquelin) or rubber tissue or gauze packing, and compression sutures to control hemorrhage. It may be of interest to note that our own Dr. William Tod Helmuth over thirty years ago removed successfully a portion of the right lobe of the liver. The same patient was under my care a few years later, and I can vouch for the remarkable success of the operation. I am unable to find proper acknowledgement in literature to Dr. Helmuth for one of the earliest operations of this kind.

Attempts have been made by epiploxy to relieve ascites due to blocking of the portal circulation by cirrhosis of the liver. The object of this operation is to establish an anastomosis between the veins communicating with the portal circulation with those emptying into the internal mammary vein. One method is to irritate the surface of the liver with gauze to produce adhesions and at the time stitch portions of the omentum to the anterior abdominal wall (Morison-Talma). Another method is to draw a fold of the omentum through a split in the abdominal wall (Schiassi). A few successful cases have been

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reported, but the ultimate results of the operation scarcely warrant the hazard of it.

Echinococci cysts of the liver are found occasionally. A pet dog is usually the medium of conveyance. Puncture of the cyst with a trochar and enucleation of the lining membrane of the cyst, followed by drainage of the cavity left is effectual treatment, if sufficient care has been taken to prevent inoculation of the peritoneal cavity with the daughter cysts.

Abscess of the liver is treated on the usual principle of evacuation of pus and drainage. The aspirating needle is useful to locate the pus and if not withdrawn it is a valuable guide for enlarging the opening and perfecting drainage in and about the pus cavity.

The infection of the biliary tract by way of the intestine and common duct of the liver causes the great majority of conditions requiring surgical aid. Chief among them is the formation of gall stones. Infection as a cause of gall stones suggests two factors of importance in surgical treatment: first, the necessity of free drainage of the liver after operation to obtain healthy conditions, and, second, that the infection is rarely seen in an acute stage when pathogenic organisms are active. By the time gall stones have formed the bacteria have perished or become inert and the bile is nearly or quite sterile while it retains its irritating qualities. Pure bile is not septic, consequently the danger of soiling the wound with a little bile rarely causes apprehension, while the leakage of bile from a perforated gall bladder promptly causes a fatal peritonitis if surgical aid is not early given.

Practical topics for the discussion of the surgical treatment of gall stones, are: why operate; when to operate; the doubtful case; technique; complications and remote results of operation.

The chief reason for operation is that in no other way can calculi be removed with certainty and the symptoms of pain, malnutrition, jaundice and other secondary phenomena be relieved. Besides this, the long continued presence of gall stones is a positive factor in the production of cancer of the gall bladder and liver. From two to fourteen per cent of all cases of gall stones terminate in cancer, a much higher mortality than that from operation.

The time to operate is often construed to mean as soon as a diagnosis can be made and while the patient has a lively recollection of his suffering. Many a patient refuses operation after pain ceases in the hope that the calculi have passed, and especially if calculi have been found in washing of the fæces. The latter is really an urgent reason for operating, as more calculi are present and colic is only a matter of time. If any

signs of perforation of the gall bladder appear there can be no question of the urgent need of immediate operation, if the condition of the patient permits. It is open to question whether the majority of cases would not make better recoveries if operated on after acute pain and inflammatory symptoms have subsided. Some patients suffer much from post-operative vomiting, due to acidosis. Drinking water freely and a liberal diet for a week or ten days on cereals, citrous fruits, such as grapefruit or lemons, with enough use of drugs to make the urine slightly alkaline, will materially reduce suffering after operation. Crile and Hogan have emphasized the importance of acidosis in the fatal termination of various operations and urge carbohydrate feeding and an alkali therapy previous to operation.

Long continued and severe jaundice interferes with coagulation of the blood. The danger of slight jaundice has been over-estimated, but it is a wise precaution to treat the patient previous to operation with lactate of lime or calcium chloride in large doses (Robson). Coagulose, horse or rabbit serum and lachesis are other remedies to be considered.

Cases of jaundice with petechiæ die if operated on. Cases of persistent moderate jaundice with emaciation or of persistent vomiting form a group of border-line cases, i.e., cases in which patients are too ill for immediate operation and where delay and treatment may clear up the diagnosis of complications, such as cancer of the liver, or enable an operation to be performed with less hazard.

A much more important class of borderline cases, which might be termed doubtful cases, are those in which the prominent symptoms are not directed to the gall bladder, but are referred to the appendix, pylorus or are disguised under a general condition of impaired nutrition and poor health. The writer has seen gall stones removed from a number of cases diagnosed as chronic neuræsthenias. The history of a colic years before is often forgotten, and the reflexes from the gall bladder produce a train of symptoms which completely disguise the true condition. Hardly a surgeon of experience can be found who has not found his diagnoses of chronic appendicitis, gall bladder disease, and ulcer of the pylorus, confused on the operating table.

This last group of cases is distinctly operative, and exploratory incision only can reveal the true condition.

It is different in cases of persistent ill health, without tangible evidence of physical ailment other than obscure abdominal symptoms. These cases appear to be distinctly in the domain of medicine. Most of them probably belong there, but some

will not be cured without the aid of the surgeon. The cause of ill health may be an unsuspected gall stone, a chronic appendix, adhesions about the gall bladder, duodenum or other part of the intestinal tract, a Lane's kink, intestinal stasis or ulcer of the stomach or pylorus. Symptoms of any one of these conditions are common to all of them. The exploratory incision must be the court of final appeal.

It is common opinion that if physicians made themselves more familiar with the living pathology as revealed in the operating room rather than the terminal processes of dissolution found at the autopsy, greater accuracy in diagnosis and treatment would surely follow. It has taken many years to establish the present status of diagnosis and treatment of appendicitis. It will take some time yet to prove the value and the larger use of the exploratory incision in many cases suffering from persistent obscure abdominal symptoms.

If from the scrap heap of baffled diagnoses we can rescue a few chronic invalids by the aid of careful inquiry into past history, the X-ray and other aids, plus the exploratory incision, it is worth the effort, but this is a very different matter from indiscriminate operating without searching examination.

Gall bladder disease is usually manifested by local pain, but the symptoms are sometimes obscure, or referred to other localities, jaundice frequently is absent and even local pain. The writer has seen two cases of intestinal obstruction due in each case to a large gall stone which had ulcerated through into the small intestine without history of pain. The small gall stone is likely to cause pain; large gall stones without pain are not uncommon and are found unsuspected in operating for other abdominal lesions.

The technique of operation varies with conditions present, but the rule of a free incision with ample room to pack away the intestine and a clear field to work in applies to all cases and especially to fat patients.

The removal of the gall bladder is clearly indicated when it has atrophied from chronic inflammation or its mucous membrane shows infection. Thick walls of gall bladder sometimes show cancer under the microscope. Many operators of large experience advocate removal of the gall bladder. It avoids drainage, makes convalescence more speedy, and there are fewer cases requiring repeated operation after removal of the gall bladder than after drainage of it. The mortality of extirpation of the gall bladder is slightly higher than drainage of it, if the risk of a possible second operation after drainage is not considered. Removal of the gall bladder requires a more skillful operator.

The drainage operation on the gall bladder is comparatively simple. After the bladder is carefully cleaned and wiped out with gauze, the margins of the gall bladder are inverted about the drainage tube and the whole secured in the upper margin of the abdominal wound, with a strip of gauze outside the gall bladder for additional drainage.

Small stones lodged in the cystic duct which cannot be manipulated back into the gall bladder or dislodged by scoop or suction apparatus, can be removed by cutting through the duct and removal of the stone. Fine silk mattress sutures can be used to close the incision with drainage outside the duct. The procedure is sometimes difficult, and in most cases removal of the duct and gall bladder will be the easier and safer procedure. Much probing of the sacculated and tortuous cystic duct in an effort to establish patency of the gall bladder and common duct is to be avoided. It often fails in purpose and serious injury or perforation of the duct may occur.

A secondary operation on the common duct after removal of the gall bladder is more difficult than after the drainage operation, as the gall bladder is the chief landmark and guide to the common duct in a mass of adhesions.

Stones in the common duct are easily overlooked, even with the finger through the foramen of Winslow and behind the duct with the thumb in front. The essential steps in removing stones from the common duct are: holding the stone in the finger and thumb; placing a suture longitudinally on each side to secure a drainage tube in the duct later; incising the duct over the stone, removal of the stone; probing the entire length of the duct up and down to make sure of patency and removal of all concretions, and the insertion of a soft rubber catheter to drain the bile to the surface. Further suturing of the common duct is not desirable. Wet gauze is now placed about the drainage tube and incision in the duct and the whole partly enclosed in a large, soft rubber tube, split lengthwise so as to conduct the whole mass of drainage up through the abdominal wound.

The surest way of finding gall stones in the common duct is to feel them by palpation or with the finger in the duct after incision, if the duct is sufficiently dilated. Probing the duct may determine patency but it will not infallibly detect stone.

Stones in the ampulla of Vater which can not be dislodged by palpation are best removed by transduodenal incision.

Operations on the biliary tract involving reconstruction of a common duct are too technical for discussion in a brief paper. The subject should not be dismissed, however, without allusion to a remarkable operation of this kind by Dr. Packard.

Pancreatitis is not infrequently associated with gall stones and due to the same infection of blocking of the common duct of the liver and pancreas where both unite in the formation of the ampulla of Vater.

The enlarged, diffusely nodular head of the pancreas is not infrequently diagnosed as cancer, whereas cancer of the head of the pancreas is much more likely to be found as a single hard nodule and not so diffuse. The pancreatitis gradually disappears with efficient drainage of bile and a patent ampulla of Vater.

The mortality of gall stone operations varies with the location of the stone. Many operations are easily performed, and few can be so difficult. An average mortality of 2 per cent for a good surgeon is a fair estimate.

The results of gall stone operations are very satisfactory in the great majority of cases. There is a recurrence of stone in a limited number of cases even when all the gall stones have been removed, owing to the formation of phleboliths in the liver, which are discharged into the common duct. Recurrent gall stones are in the majority of cases small stones overlooked at the first operation. Persistent pain after operation is much more often due to adhesions than to the presence of a concretion. Pain may be due to chronic pancreatitis, which disappears gradually with the patency of the common duct established and subsidence of infection by adequate drainage.

The results of operation are materially improved by after-treatment, which produces a free discharge of thin, watery bile instead of the thick ropy bile so often seen at operation.

The remarkable relief from jaundice and hepatic colic experienced by those visiting Carlsbad is an illustration of the benefit of such treatment. Gall stone colic and operations for gall stones are rarely observed there, though the city is a favorite resort for large numbers of such cases. It is to be accounted for by the large amount of Carlsbad water drunk, the enforcement of prescribed diet and exercise. If so much relief can be obtained without operation it surely follows that such treatment or along similar lines should form an important part of treatment continued for some time after operation if the best possible results of gall bladder surgery are to be obtained.

## THE DIAGNOSIS OF DISEASES OF THE LIVER\*

By HARRY J. LEE, M.D., Boston, Mass.

The recognition of hepatic diseases and the changes occurring to the gall bladder and ducts will be considered in this paper under two conditions:—

First, by such manifestations or physical signs and symptoms as can be applied to the unopened abdomen; that is, from the everyday clinical aspect and

Secondly, by such conditions as are presented during an exploratory or operative incision in the upper abdomen; this last being with the aid of vision and direct palpation.

This is often as perplexing and requires more prompt and exact application of surgical judgment and use of the pathological facts elicited than the diagnosis of liver conditions at the bedside.

A few preliminary remarks in regard to the methods of observation may be in order, that the examination of that part of the body containing the liver and the upper right quarter of the abdomen may give us the greatest number of valuable facts in return for the time spent in palpation, percussion and X-ray examination of the same.

In the adult the normal liver dulness with the body horizontal extends to the upper border of the sixth rib in the mammary line, to the upper border of the eighth rib in the axillary line, and to the upper border of the tenth rib in the scapular line, an easy triplet to remember, — six, eight, ten, — as the highest dull point from before backward.

Intra-thoracic fluid, or solidification, dense and extensive pleural adhesions, and expansion of the cardiac area of dulness to the right may cause an alteration of the upper boundary of dulness from intra-thoracic causes. Accumulations of pus, acites and hemotomas and solid growths may alter the upper boundary of dulness from intra-abdominal causes.

The normal lower termination of dulness is variable, depending upon the thickness of the anterior liver margin, the character and amount of contents of the colon, stomach and other abdominal viscera.

In the absence of marked ptosis the moderately distended fundus of the gall-bladder is overlaid by the ninth right costal cartilage, as the gall bladder over distends it approaches the median line and descends towards the umbilicus.

In a slim patient the vertical thickness of the liver is

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increased, and a slender waist does not necessarily mean that the liver is either pushed abnormally high or displaced downward. In this type of individual there is frequently insufficient room for proper descent of the liver and depression of the diaphragm on deep inspiration. In the broadbacks there is sufficient space for the liver but a tendency for the liver to gravitate toward the right side drawing the suspensory ligiment to the right, and it is in this type of individual that a lack of tone in the abdominal muscles together with excessive omental weight and intestinal length the most marked displacement downward or ptosis is found.

In the absence of operative or X-ray evidence the belief in the existence of ptosis in a given case is substantiated by relief from vague and indefinite symptoms which result from any form of treatment or postures that tend to increase the tone of the supporting muscles of the abdominal wall and to lessen the traction on vessels and splanchnic nerves. The frequently observed improvement in patients wearing an abdominal belt or abdominal supporter which accomplishes much the same purpose is corroborative of a diagnosis of liver ptosis.

The X-ray shadow cast by the liver if the exposure is made with the patient holding the breath or by a very rapid or snap shot exposure, shows the vault of the diaphragm and the highest point of the liver at any point where respiration was overtaken at the time the exposure was made, plus the distortion that occurs in the X-ray shadow of any object due to the nearness of the source of radiation. We are accustomed to considering parallel rays of light as the sun, and other sources of light are usually at such a distance as to cast nearly parallel rays, but in the case of the point within the vacuum tube that gives off the X-rays this point is usually so close to the object examined that the rays are very divergent. An object as large as the liver would cast a shadow about its own size if this shadow were produced by the liver's intervention of parallel light rays. If the shadow of the liver is produced by the intervention of divergent rays whether from a source of light as we ordinarily consider light or from the source of the X-ray located as is usual two feet or less from the object, the shadow will greatly exaggerate or magnify in size.

Whether the X-ray observation is made from a point representing the exact center or a little above or below or to one side of the liver makes a great difference in the result obtained.

Unfortunately no routine and generally accepted method of examination of the liver and gall bladder are in vogue, and until a standardized technic is established by those doing X-ray

work the evidence obtained as to the location, size or other useful and comparative data from X-ray examination of these parts is subject to too many chances for error and is too indefinite to be useful.

The clinical groupings of pathological states and the symptoms accompanying them found in any comprehensive practice of medicine and surgery are ponderous.

Single pathoneumonic signs of the liver diseases do not exist. The liver with its several and, except in the text books, inseparable functions is not involved alone without attendant changes on the portal and general circulatory systems. These changes are hydraulic and chemical and more or less directly affect all the other digestive apparatus. Remote changes in the blood and the tissue changes that are consequent upon prolonged jaundice are characteristic.

Transient hyperæmia of the liver is physiological and occurs during and after each taking of food. It can not be recognized by any method of clinical examination and fortunately does not need to be.

Chronic venous hyperæmia is hydraulic in origin and dependent upon back pressure of blood. This passive hyperæmia is a most frequent alteration from normal and recognized by symptoms often remote from its cause. A defect in the action of the right side of the heart, frequently tricuspid insufficiency, produces either a back flow of blood during ventricular contraction or during diastole the inferior vena cava maintains a plus pressure. This results in backsetting of blood into the veinlets collecting the blood from the liver lobules and if this occurs in sufficient degree into the branches of the portal vein. A stasis with slowing of the flow of blood heartwards results. By another but less frequent mechanical obstruction to the return flow of blood to the heart, the same condition may be produced. Any mass in the vicinity of the inferior vena cava within the thorax exerting pressure directly or by crowding otherwise normal structures against the inferior vena cava may produce and maintain a back pressure resulting in intra-hepatic venous stasis. Mediastinal tumors, enlarged bronchial glands, consolidated lung and spinal caries may produce this condition.

Prolonged venous stasis results in gross changes in the liver which are manifest by a central turgidity and anæmic anterior margin; there may be sensation of something wrong, or tenderness of slight degree on deep palpation over the region of the liver. The size of the liver may not be altered; jaundice results only if other liver abnormality exists at the same time.

Atrophy of the liver is usually considered as of two kinds, that sort usually considered in the books as resulting from

alcoholism attended by replacement, usually over a period of years, of the parenchymal liver cells by connective tissue, and the second form of liver atrophy which occurs rarely in pregnancy with its rapidly malignant course attended by jaundice and necrosis of liver cells.

The slower or alcoholic atrophy commences in the left lobe of the liver, and insidiously there is a sclerosis of the right lobe. Later there is a diminished dull area to percussion. The liver is pale, very hard and presents a rough hob-nailed appearance. In an individual with a thin abdominal wall and without distention a notched or scalloped anterior margin may be palpable. Jaundice is not characteristic. If ascites is present it is of gradual onset and does not return rapidly after abdominal paracentesis.

Three conditions are prone to cause ascites, one, the slow atrophy just described; the second, portal obstruction resulting from portal phlebitis or portal thrombosis and from causes outside the portal vein such as growths, gall stones and oedema in the neighborhood of the portal vein. Ascites from portal obstruction is of hours or days in its oncoming. If the intra-abdominal fluid is withdrawn the abdomen refills quickly.

The third condition resulting in the accumulation of ascitic fluid is hepatic cancer. No rule for time of accumulation of the intra-abdominal fluid can be laid down, though it is usually gradual. If withdrawn, the refilling is not as rapid as in the acute conditions produced by portal phlebitis and portal thrombosis.

Ascites caused by renal and cardiac degenerations is attended by a swelling of the extremities that are not characteristic of liver and portal ascites.

Septic processes in the liver are almost never primary. They are consequent upon the entrance of infection from another abdominal structure.

Septic matter brought by way of the portal vein, through the hepatic artery or by extension through direct contact is accountable for liver abscesses. An ulcer of the stomach, or duodenum, a cholecystitis known or unrecognized, a pelvic infection, appendicitis or any peritoneal involvement with pus present may be distributed by way of the portal or arterial blood stream to any or all parts of the liver and so multiple abscesses are formed. Any septic course that a post-operative abdominal patient may follow gives rise to suspicion of this condition. Localized tenderness over the liver increases as pointing of an abscess takes place. In a liver with many abscesses tenderness may not be demonstrable, whereas a single large abscess pointing may be so painful as to interfere with

breathing because of the intensity of pain resulting from the respiratory motion. Jaundice is not characteristic of abscess of the liver.

The prognosis in multiple and non-pointing abscesses of the liver is bad, as the process that was primary to the liver abscess formation is liable to be constantly furnishing septic material to replace any foci that are beyond the height of their abscess activity.

Echinococcus infection occurs through the *tænia's* embryos passing through the stomach wall and entering a tributary to the portal vein. The portal bloodstream takes these embryos to the liver where growth and increase in numbers take place. Only through seeing the hooklets in the cyst formed within the liver from the development of the echinococcus embryos can such a cavity be distinguished from an abscess cavity. The septic process and extreme liver tenderness of an abscess are not present.

The syphilitic manifestations of the liver in infancy are as miliary gummata. Adults during the tertiary stage of syphilis have distinctly palpable growths of the liver that are not sensitive and that disappear under the forms of treatment employed for such syphilitic lesions elsewhere.

Any palpable mass of the liver in the absence of definite symptoms of an inflammatory process or a history indicating affections of the ducts or gall bladder justifies a reasonable period of anti-syphilitic treatment as a means of diagnosis.

Neoplasms of the liver other than cancer are very rare. Cancer of the liver except in its late stages has no distinctive symptoms. At the present time no laboratory method of recognition has appeared. As in the other parts of the body not easily observed, the cancer process has destroyed and extended beyond where we can control it before its presence is known.

Cholecystitis, like appendicitis, is a common ailment. Like the appendix the gall bladder is an offset from the alimentary canal lined by mucous membrane, having a none too good blood supply, and connected to the alimentary canal by a slender tube or duct.

The gall bladder like the appendix is prone to become infected by the colon, typhoid and other bacteria from the alimentary canal. The gall bladder contains bile which in event of normal chemical and opsonic composition is capable of preventing the multiplication and growth of the bacteria finding entrance from the alimentary canal. There is a physiological emptying of the gall bladder and replacement of the bile by fresh bile from time to time, so that bacteria are evacuated into

the duodenum from which they came. This emptying of the gall bladder is accomplished by contraction of the muscular layer which like the musculature of the appendix is given to great variation in different individuals and probably in its effectiveness in the same individual at different times. Oedema of the wall of the gall bladder splints and makes the gall bladder so rigid that its muscle can not evacuate its contents. Oedema of the duct lessens its lumen and makes the escape or entrance of bile more difficult.

These tissue changes—Oedema of mucous membrane, infiltration of the submucosa and muscle with leucocytes—are identical with those taking place in an inflamed appendix. In either an inflamed gall bladder or an inflamed appendix the peritoneal involvement may be marked or absent. If the process goes on further, vascular stasis and necrosis of the entire thickness of the wall occurs, in the case of either the appendix or the gall bladder. With such similar pathological processes going on is it any wonder that to distinguish by symptom differences which exists in a given instance is difficult?

Abdominal pain, local tenderness, vomiting, elevation of pulse and rectus splinting with but one distinguishing difference, and that is that the tenderness on palpation is or may be higher in the inflamed gall bladder than in the appendicitis.

The method of examination of the under surface of the liver and gall-bladder and its application by Murphy is described by him as follows:—the examiner, sitting at the right side of the recumbent patient, presses the tip of the second finger of the left hand flexed at a right angle, firmly up under the costal arch at the tip of the ninth cartilage. The patient is instructed to take a deep breath and at the height of inspiration, when the gall bladder is forced below the costal guard the flexed finger is forcibly struck with the ulnar side of the open right hand of the examiner, and if there be inflammation or a retention in the biliary tract, the patient will announce that the blow caused him severe pain.

The significance of gall stones found during an operative exploration or at autopsy is usually their indication of past rather than existing infection and cholecystitis.

Many gall bladders containing calculi are at this time sterile because the infected condition is months or years past. As in tubercular or cold abscesses, the causing bacteria have long prior to the time of the bacteriological examination of the gall bladder's contents done their evil work and disappeared.

## MEDICINE AMONG THE ANCIENT HEBREWS

By BORIS J. SOHN, M.D., Boston, Mass.

Much time and learning have been spent in attempting to depict the early origin of medicine. Certain historians assert that Tubal Cain was the first to invent cauterizing instruments, machines for reductions of fractures and other surgical apparatus.

It is evident that medicine must have had a very early origin, for mankind was, from time immemorial, even in the most uncivilized ages, exposed to numerous casualties and has thus gradually learned the means of alleviating the pains or averting the consequences of the more common external and internal injuries.

The fact is, that amongst the primitive nations the art and science of healing was monopolized wholly by the priests; even at the present day the practice of medicine is, in certain localities amongst the savages in Africa and in India, a part of priest-craft. Among the ancient Jews, however, medicine had an entirely different fate; the Hebrew priests were assigned by Moses to the task of police supervision *only in cases of epidemics or infectious diseases*.

A variety of passages in the Scriptures and especially in the Laws of Moses show that the law-giver had a considerable knowledge of natural history and medicine. He offers a clear description of the characteristics of white leprosy and suggests a rational treatment for the same. He teaches how to distinguish the spots, which announce the early invasion of the disease, from those which ought not to arouse suspicion, and explains fully in the 13th chapter of Leviticus the various symptoms of that dreaded affection, as will be seen later in the article.

Nowhere in the Bible do we find a single instance of a priest, who, willingly or unwillingly, performed the functions of a physician. The art of healing, as far as its development reached in the olden days, was occasionally practiced by the prophets, instances of which we find in several passages of the Old Testament, thus in Kings II we read that Isaiah cured King Hezekiah of an inflammation by applying a plaster of figs.

The Mosaic legislature regulated the life of the people by precepts which were directed toward improving their morals and their health. The prophylaxis of disease and a rational dietary were looked upon as the *essential antecedent conditions*. The ends were served by laws which dealt with the care of the

newly-born, the nourishing of the child, the regimen of the mother and nurse, and by laws relating to cleanliness, clothing, food, dwellings and places of burial. (Exodus II, 15, 26; xix, 6.)

At a later period, when medicine became both an art and a science, physicians were highly esteemed by the people; the art of healing became to be the most significant institution among the Jews in the period of the Talmud; afterward the status of medicine became still more exalted. The following from Ecclesiasticus, chapter xxxviii, part of which is not found in the English version, will characterize the Hebrew physicians and their social standing in the ancient days:

"Honor a physician. The skill of a physician shall lift up his head and in sight of great men he shall be in admiration. When thou feelest sick, call upon God and bring the physician, for a prudent man scorneth not the remedies of the earth."

The court of Justice employed in certain cases the services of physicians, upon whose expert testimony much weight was laid in matters criminal. It was the duty of the physician to give his opinion, for instance, as to the danger to the life of the assaulted. Corporal punishment was never inflicted without the supervision of a physician. The license to practice medicine was issued by the local Judicial Court to those only who were well versed in the science of healing and proved to be competent enough to perform the duties of a physician.

Although the physicians as a rule practiced surgery also, there still existed a few special surgeons who devoted their entire attention to surgery exclusively—the latter having been known under the name of "Umen," while the physician was called "Rophe"—"Healer." After the captivities and the subsequent contact of the Jews with foreign nations, there arose also a class of Temple physicians and special surgeons. Both classes of medical men were under the immediate jurisdiction of the local Court of Justice, similar to what is known to-day as the "Medical Licensing Board." Each city was required to have *at least one* physician, and it was considered hazardous among the Jews of those days to live in a city that had no medical practitioner.

The art of healing was in the majority of cases transmitted from father to son,—experience having taught that the son of a medical man proved to be more skillful in the profession than the average man. The medical knowledge of the Talmudists was based on the findings obtained from dissecting human bodies, although such operations were not very common among the Israelites of old; they had, also, indulged in medical researches by observation of diseases and experiments upon

animals. The fact that physicians took part in the discussion of many important religious questions by the Rabbis, indicates that the latter were not unacquainted with the science of medicine.

Notwithstanding the numerous records in the Bible and in Talmud, it cannot be stated definitely what was the sum total of the medical knowledge possessed by the ancient Hebrews, for medicine was, to some extent at least, an integral part of the religion of the Jews, and various medical subjects are treated or alluded to in the Bible as well as in Talmud only as far as they concern some point of law.

Nearly every branch of medical science is in some way or other discussed in the Scriptures and in Talmud. Anatomy is mentioned several times, although the references to the internal organs, especially those of the human body, were merely popular in character; in Biblical poetry, however, we find an abundance of expressions in which names of organs are used metaphorically.

Perhaps the earliest mention in the Bible of anything similar to anatomy seems to be given in the narrative of Jacob wrestling with the angel. There it is said that the angel touched the "Hollow of the thigh," and put it out of joint. The circumstances might suggest that the narrator of that occurrence had some idea of the nerve extending through the thigh, knee and ankle, *the great sciatic nerve*. In Exodus, numerous members of the human body are mentioned repeatedly.

The ancient Hebrews were acquainted with the use of medicinal springs. In I Samuel xvi, 23, we find mention of the favorable influence of music as exercised in many psychical disturbances. The playing of David on the harp before King Saul during the melancholic state of the latter warrants the belief that the beneficial effect of music was well recognized. In Hezekiah xxx, 21, mention is made of application of bandages in cases of fractures. For skin eruptions which were so prevalent amongst the Hebrews in the tropical countries the Hebrew doctors insisted upon the *separation of the sick from the healthy, most scrupulous cleanliness and frequent hydrotherapy*.

The laconic description of Job points to a merely rudimentary knowledge of embryology by the author of that great work. In the poetical description of the respective forms of the lovers in the Songs of Solomon a few more names of anatomical organs and structures are mentioned. The Rabbis declared that there were 248 bones in the human body; this number they obtained unquestionably, by counting the processes and heads of some bones as *separate individual structures*, for instance, the head of the femur was regarded by them as a single bone, also the acromion process, the olecranon, the head of the radius, etc.

They regarded the os innominata as three bones, the number two hundred forty-eight having been obtained by counting the bones of the human body before complete ossification took place. This points to the considerable knowledge of *osteology* possessed by the early Hebrew physicians and Talmudists.

The symptoms of the white and red leprosy (Zaraat) are described as follows:

“And the priest (as mentioned early in this paper, the priests were assigned to the duties of physicians during epidemics of contagious diseases), shall look on the plague in the skin of the flesh and if the hair in the plague be turned white and the appearance of the plague be deeper than the skin of the flesh, it is the plague of leprosy. And when the flesh has in the skin thereof a boil and it is healed, and in the place of the boil there is a white rising or a bright spot, reddish white, then it shall be shown to the priest, and the priest shall look, and behold, if the appearance thereof be lower than the skin and the hair be turned white, then the priest shall pronounce him *unclean*; it is the plague of leprosy, it hath broken out in the boil. But if there be in the bald head, or in the bald forehead, a reddish white spot it is *leprosy*, breaking out in his bald head or bald forehead, etc., etc.”

To differentiate this from the benign scab, the following symptoms are given: “And when a man or a woman hath in the skin of their flesh bright spots, *even, white*, bright spots, then the priest shall look, and behold, if the bright spot in the skin of their flesh be a dull white it is a tetter, it has broken out in the skin; he is clean.”

True, from our diagnostic standpoint, with all the modern scientific means, the microscope and other laboratory methods, the above description and symptomatology is rather obscure; nevertheless, it cannot be denied that a careful study of these symptoms during epidemics in the ancient times was made and resulted no doubt in a correct diagnosis in a majority of instances.

Midwifery was practiced among the Jews very early. Even while they were still in Egyptian slavery, midwives were very commonly found among them. Their practice is described with more or less realistic completeness in Genesis xxv, 24–26; xxxviii, 27–30; Exodus, 1, 15, 21.

King Solomon manifested great interest in medical science and is said himself to be the author of a book on the subject; this medical work entitled “Sepher Rephuoth” — “The book of remedies” — is mentioned on several occasions in the Talmud.

The ancient Hebrews had a considerable knowledge concerning the anatomy of the genito-urinary apparatus, as the

laws relating to circumcision, menstruation, etc., are discussed at length in the Bible and particularly so in the Talmud. According to the laws of Moses, a woman, after giving birth to a male child, remained unclean for seven days thereafter. In the case of a female child, she remained unclean fourteen days; then followed a period of purification for a male thirty days and for a female sixty days. The laws of the Bible concerning miscarriages served as an impetus to the authors of the Talmud and other medical men for the study of Embryology.

The ancient Hebrews who were engaged in the practice of the art of healing, had probably a more profound knowledge of physiology than of any other branch in medical science. In the Bible we find several passages where blood is identified with the soul. In the days of Talmud blood was regarded as the essential principle of life. It is unmistakable, that the Talmudists were the first to note the fact that the muscles changed their form while in motion and the phenomenon of muscular contraction, and the functions of the heart are widely discussed on numerous occasions in the Ta'mud, thus it is said: "The life of all the organs of the body depends on the heart." Also, the functions of the glands and the essential object of saliva, the function of the gastro-intestinal tract are discussed repeatedly in the Talmud. The Hebrew physicians knew much regarding the peristaltic movements of the digestive canal and compared the stomach to a *mill*. The phenomena preceding the period of menstruation are described in detail in a whole volume of the Talmud — "*Nidah*."

Much discussion evidently took place among the early Hebrew physicians concerning *pathology*. This was primarily because medicine was an integral part of the religion of Israel and the Rabbis had, consequently, studied this branch of medical science very carefully. It is remarkable that the early Hebrew physicians and Talmudists seem to have been the first to recognize what is at present the prevailing theory, namely, *that the symptoms of all disease are merely outward manifestations of internal changes, either organic or functional*. Their pathological studies were the direct outgrowth of certain laws concerning the pathological conditions of beasts and animals which were forbidden to be used as food. In order to determine the condition of the internal organs, each and every slaughtered animal was subjected to an autopsy and careful examination; the pathological condition of the organs of these animals, especially those of the heart and the lungs, were most diligently studied by the examiners. This resulted in a full and, to a certain extent, complete knowledge of the science of pathology among the ancient Hebrew medical men and Talmudists.

Medical science on account of its intimate relation with the religion and social legislation of the Jews, was drawn into the domain of education in the prophet schools, which were frequented by full grown youths. Certain prophets, as for instance, Elisha, were famous for their successful cures. Whoever desired to be regarded as a learned man, was obliged to be possessed of some medical knowledge. Indeed, this was a part of the general education and was sought after by those who desired to occupy a prominent position in public life.

As previously stated, the chief glory of medicine in the Biblical days lay in the social hygiene, the realization of which was bound to promote the welfare and preservation of the nation, no matter what the original inspiration may have been.

Many of the commands concerning prophylaxis, suppression of epidemics, suppression of venereal diseases and prostitution, care of the skin, hydrotherapy, sexual life, etc., are regarded by the medical profession of today as the fundamental principle of the healing art. *Preventive medicine* then as now appeared to be the watch-word of the day.

Some students of the Old Testament endeavor to create the impression that cure of disease was sought through prayer and sacrifice (something of the Christian Science type). This is to be denied emphatically! Dietetic measures and medication made up the principal treatment in the large majority of diseases. Baths in the Jordan and in healing springs, wine as a stimulant, figs as material for poultices, oil plasters and salves were among the things most commonly employed by the early physicians for various bodily affections.

Among numerous primitive nations evil spirits and devils were considered as the chief etiological factors in the production of disease; the method of curing the latter was, consequently, based on *magic*, which aimed chiefly in expelling the disease demon from the sick. The Hebrews *had no magic, as this was prohibited in their laws with stern severity*; the Hebrew physicians, therefore, resorted to more rational measures in curing the sick; they were paid very liberally for their labor. The following from Exodus, xxi, 18-19, will confirm the statement:

"And if men contend and one smite another with a stone or with a fist and he die not, but keep his bed; if he rise again and walk abroad upon his staff, then shall he that smote him be quit; only he shall pay for his (the patient's) time and *shall cause him to be thoroughly healed.*"

The disease icterus was recognized as arising from retention of the bile. The Talmudists divided the accumulation of fluid in the body into: anasarca, ascites and tympanites. Sup-

puration of the cord, induration of the lungs were considered, as they are today, practically incurable.

Natural remedies, both external and internal, were employed quite freely. Dispensations were given by the Rabbis to permit sick persons to eat prohibited food when this was thought to be of benefit to the patient. Onions and garlic were prescribed for worms; emetics in nausea; a mixture of gum and alum for menorrhagia. The surgery of the Talmud includes a knowledge of dislocations and contusions of the head, perforations of the lungs and other organs; injuries of the spinal cord, fractures of the ribs, etc.

Herzog, in Religious Encyclopedia, vol. II, 1454, enumerates the following diseases mentioned in the Bible: Fever and ague (Lev. xxvi, 16); dysentery and probably prolapsus ani (2 Chron. xxi, 15-19); inflammation of the eye (Lev. xix, 14; Deut. xxvii); ophthalmia neonatorum; diseases of the liver, hypocondriasis, hysteria, rheumatism and gout. A general term including consumption, hectic and typhoid fever and other febrile maladies (Deut. xxviii, 22). Phthisis, Isaiah x, 16. Atrophy of the muscles; fevers in general; pestilence (Deut. xxvii-24); Oriental pest; boils, gonorrhœa, sterility, elephantiasis, dropsy, cancer, worms, leprosy, itch, apoplexy, melancholia, nervous exhaustion, miscarriage, poisoning from snake bite, etc. Syphilis is very clearly indicated by several verses in Proverbs vii, in the warning against the strange woman — verses 22, 23, 26, 27.

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#### DEATH OF DR. COLBY

Just as the *Gazette* goes to press word is received of the death of Dr. Edward P. Colby of Boston, which occurred on November 1.

A suitable obituary will appear in our December issue.

## EDITORIAL

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Books for review, exchanges and contributions — the latter to be contributed to the GAZETTE only and preferably to be typewritten — personal and news items should be sent to THE NEW ENGLAND MEDICAL GAZETTE, 80 East Concord Street, Boston. Subscriptions and all communications relating to advertising or other business should be sent to the Business Manager, 80 East Concord Street, Boston, Mass.

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## THE PREVENTION OF CONCEPTION

As one reads the disquieting reports which come from the more highly civilized portions of the world relative to the alarming decrease of the birth rate, and the many suggested measures for a return to the old order of things, it is a little disturbing to read in a popular magazine a plain, straightforward article by a well known author and authority openly advocating and enthusiastically endorsing the general adoption of contraceptive methods of conception.

In the September number of "Physical Culture," Havelock Ellis says a number of surprising things, such as:

"When a contraceptive method is adopted under satisfactory conditions, with a due regard to the requirements of the individual couple, there is little room to fear that any injurious results will be occasioned."

Again, — "In Holland, nurses are medically trained in a practical knowledge of contraceptive methods, and are thus enabled to enlighten the women of the community. This is an admirable plan. Considering that the use of contraceptive measures is now almost universal, it is astonishing that there are yet so many so-called 'civilized' countries in which this method of enlightenment is not everywhere adopted."

Contrast for a moment his plan for placing in the hands of every married couple (for that would be the ultimate result of his idea) a knowledge of how to prevent conception, with, for instance, the lament which comes from England through the columns of the "London Lancet" for September 30, which says:

"The continued fall in the birth-rate, which has now reached the lowest level heretofore recorded, may have many explanations, but the factor of the deliberate limitation of

families, whether from provident or selfish motives, can no longer be ignored. The dissemination of knowledge with respect to the use of contraceptives has undoubtedly contributed to this result, not only among the upper and middle classes, with whom their employment has been reduced almost to an exact science, but even among the poorest, with whom such practices were quite exceptional a decade ago."

Contrast again Havelock Ellis's deliberate plan of race suicide, with an article in the June 1914 number of the "Journal of American Statistical Association," by Nellie S. Nearing, on the marked decrease of fecundity amongst college men and women, in which she reports:

"The eight colleges graduating more than 100 students each during the decade (Earlham, Swarthmore, Wilson, Indiana, Vassar, Radcliffe, Wellesley and Bryn Mawr), show fairly uniform marriage rates. The lowest is Bryn Mawr, 41.8 per cent. (294 graduates), and the highest Swarthmore, 58.7 per cent. (148 graduates). It is probable that the marriage rate for this decade is fairly representative of the tendency in the modern women's college world."

Also, "the marriage rate of Yale graduates had declined to 66.3 per cent. for the period 1867-86, a period long enough to furnish a basis, and Prof. William B. Bailey, the statistician, has calculated from the class records that the average number of children born to the married graduates of these classes when all their families are complete is 2.3."

Havelock Ellis cites as an argument to support his plan the following: "It was in France, so often at the head of an advance in civilization, that birth control first became firmly established, and that the extravagantly high birth-rate of earlier times began to fall; this happened early in the nineteenth century, whether or not it was mainly due to voluntary control. In England the movement came later, and the steady decline in the English birth-rate which is still proceeding began in 1877."

Had Dr. Ellis carried his arguments further he must necessarily have shown that these same countries, France and England, which in 1877 adopted contraceptive methods and carried them out to such a disastrously successful extent, are today seeking every known method to bring their birth rate back again to what it formerly was. The condition is such that the "London Lancet" says: "It is distinctly alarming."

In New South Wales a royal commission has been appointed to investigate the declining birth rate in that country and has reported in part as follows: "We are satisfied that the statistics show: That a decline in birth rate in recent years has characterized all the states of Australia, and New Zealand, also

in the United Kingdom, also many of the large cities of Europe, United States, and South America." It further adds these significant words:

*"There is no evidence of any increase of physiological sterility in women of New South Wales."*

Then note the conclusion of this same commission:

"The conclusions which we draw from the evidence on this branch of our subject are inevitable, namely, that there is a diminution in fecundity and fertility in recent years, which is due to:

"(a) Deliberate prevention of conception and destruction of embryonic life.

"(b) Pathological causes consequent upon the means used and the practices involved therein."

Whatever may be the cause of the marked decrease in the birth rate in all these countries, whether it be environmental, educational, or a physiological decrease of fecundity, is not the point just now, but the deplorable aspect of the matter is that a writer of such knowledge and influence as Havelock Ellis should in a popular magazine advocate the deliberate adoption on the part of the laity of methods for the prevention of pregnancy. He does admit that possibly it might be used to an injurious degree, for he says:

"For what device of man, since man had any history at all, has not proved sometimes injurious? Every one of even the most useful and beneficent of human inventions has either exercised subtle injuries or produced appalling catastrophies.

"It is just the same in the matter of clothing. There have been introduced all sorts of new susceptibilities to disease and even tendencies to direct injury of many kinds. Yet no one advocates the complete disuse of all clothing on the ground that corsets have sometimes proved harmful. It would be just as absurd to advocate the complete abandonment of contraceptives on the ground that some of them have sometimes been misused."

It may be quite true that every device of man has been injuriously employed, but few devices of man have had the deliberate purpose of exterminating the human race. Every family physician of wide human experience knows full well that if every young married couple had it within their power to avoid having children for the first two or three years of married life, ninety per cent. of them would employ that power, and every married couple knows that if they could escape the responsibility for three years but few of them would elect to have any children at all. It is most rare for a couple to find a *convenient* time to have children when such is left to their own volition.

Moreover, it is physiologically true that in proportion as preventive measures are successful, just so surely does fecundity diminish, with the result that where contraceptives have been effective for three years sterility is more than likely to ensue. Nor would the evil resulting from a widespread knowledge of contraceptive methods cease with a diminished birth rate. It would be a direct bid to immorality. Many a man and woman is deterred from illicit relations from no higher moral sense than a fear of detection through pregnancy. Once remove that check and there would then be no further deterrent to their relations. It is true that there are thousands of cases where it would seem the part of simple humanity to impart a knowledge of contraceptive methods, and no doctor with the true sense of regard for his patients' physical well being would withhold such knowledge, but to make that knowledge public property, hawked about by trained nurses, and lecturing doctors, is unthinkable.

The advocates of euthanasia make a very plausible case when they picture the helpless and hopeless invalid dragging out an agonizing existence when life becomes both to him and his friends a long-drawn-out torture. They picture the burden he becomes to his friends, to the state and to society, with the uselessness of his life to himself. Logically they advocate a painless but quick death as the most humane method of solving the problem; all of which sounds very humane, but unfortunately if that power of terminating the life of the sufferer were put into the hands of even the most scrupulously honest and trustworthy, it would ere long be sought and obtained by the designing who would use it as a cover for murder.

So with contraceptive measures. The weapon is too powerful for evil to be passed around indiscriminately and used alike by the ignorant, the designing, and the selfish.

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## SOCIETIES

### MASSACHUSETTS HOMŒOPATHIC MEDICAL SOCIETY

The seventy-fifth semi-annual meeting of the Massachusetts Homœopathic Medical Society was held at the Massachusetts Homœopathic Hospital, Boston, Mass., on Wednesday, October 13.

The morning was devoted to surgical clinics. A pleasant luncheon was served at Boston University School of Medicine. The meeting opened at 1.30 P.M. with a business session. James Y. Rodger, M.D. of Lowell, and George F. Worcester, M.D. of Merrimac, were elected members of the Society. The following amendment to the by-laws was presented: To amend Article XXVI by substitution for the words, "second Wednesday in October" the words "first Wednesday in November."

The papers and discussion were devoted to a consideration of "The Liver." The following papers were ably presented:

*The Physiology of the Liver.*

Frederick P. Batchelder, M.D., Professor of Physiology, B.U.S.M.

*Diagnosis of Diseases of the Liver.*

Harry J. Lee, M.D.

*Treatment of Medical Diseases of the Liver.*

J. Arnold Rockwell, M.D.

*Treatment of Surgical Conditions in the Liver.*

George R. Southwick, M.D.

Discussion of all of these papers followed, in which a number of the members participated.

The weather was fine and the attendance very good.

Edward S. Calderwood,  
Recording Secretary.

## BOSTON DISTRICT OF THE MASSACHUSETTS HOMŒOPATHIC MEDICAL SOCIETY

The first meeting of the Society for the year 1915-1916 was held at the Evans Memorial building on Thursday evening, October 7, at 8 o'clock. The scientific session of the meeting included two papers, one entitled "The Prognosis of Incipient Senile Cataract," by David W. Wells, M.D., the second "Internal remedies in Acute Inflammatory Conditions of the Middle Ear," by Howard P. Bellows, M.D., followed by an interesting discussion of both papers.

The name of David L. Belding, M.D., of Boston, was proposed for membership, and a letter was read from Mrs. Frances F. Mann, expressing her thanks for the tribute of the Society to her husband, the late Dr. William O. Mann, former auditor of the Society.

At the close of the meeting light refreshments were served.

## OBITUARY

### Amelia E. Burroughs, M.D.

Amelia Emma (Milestone) Burroughs, M.D., died at her late residence, 31 Massachusetts Avenue, Boston, September 25th, 1915, after a long distressing illness.

Dr. Burroughs was born in Wellington, Ohio, June 22nd, 1852. In early girlhood, she was the happiest when she was helping others. Later she identified herself with church work, in which she never lost her interest. She received her early education at Humiston Institute, Cleveland, Ohio. In 1873 she married Mr. Edgar W. Burroughs and removed to Greenwood, Michigan. Yet she could not quell the keen desire to help the sick and suffering; consequently in 1878, she entered the Hahnemann Homœopathic Medical College in Cleveland, Ohio, now known as the Ohio State University, from which she graduated in 1881. Dr. Kate Parsons (her aunt) of Cleveland, Ohio, was her preceptress. Dr. Parsons will be remembered by some of our older physicians. Dr. Burroughs commenced her practice in Council Bluffs, Iowa. So successful was she in her undertaking that she enlarged her field of work by removing to Omaha, Nebraska, where she practiced several years. The outside exposure and incessant toil at last made inroads on her naturally robust constitution, and she was forced to abandon her practice for a time. After a year spent in Europe, she came to Boston and opened an office on Boylston Street. Later she removed to 31 Massachusetts Avenue, where she died. She was a member of the American Institute of Homœopathy, Massachusetts Homœopathic Medical Society, Boston Homœopathic Medical Society, Massachusetts Surgical and Gynecological Society, and Vice-President of the Twentieth Century Medical Club.

Her funeral took place at her late residence on September 30th. Rev. James A. Richards of the Mt. Vernon Congregational Church officiated; Rev. Hastings H. Hart of New York City, Manager of the Child Helping Association, Russell Sage Foundation, a life long friend of the family, was present and paid a glowing but well deserved tribute to her memory.

Dr. Burroughs is survived by her devoted son, Mr. Will Bliss Burroughs, who was her constant attendant during her long sickness, which

lasted more than a year. She is also survived by her aged parents, Mr. and Mrs. Peter Milestone, and three brothers.

And now she sleeps, the tired one,  
God called her; He knew best.  
The soft fall winds above her sigh,  
She is at rest.

Yet her brave life with deeds of love  
Like diamonds bright before us lie  
They lead us on to nobler things;  
They never die.

Clara E. Gary.

### RECENT DEATHS

Dr. Edward A. Carpenter, retired, for many years in practice in North Cambridge, Mass., died on June 24 of the present year.

Dr. Charles W. Stiles, a graduate of the class of 1878 of Boston University School of Medicine, and long located in Somerville, Mass., died suddenly on October 7.

### BOSTON UNIVERSITY CALENDAR

The announcement of Boston University Calendar has attracted the attention of the Faculty and graduates from all the departments of Boston University, and its appearance for 1916 is now assured. The proceeds resulting from the sale of this calendar — which, by the way, is to be a most attractive book — will be added to the permanent fund of Boston University Women Graduates' Club. The price is to be one dollar.

For further information apply to Dr. Clara E. Gary, 416 Marlboro St., Boston.

### FOURTH SERIES OF FREE PUBLIC HEALTH TALKS (1915-16)

The program of the fourth series of "Free Public Health Talks" to be given at the Evans Department of Clinical Research and Preventive Medicine of the Massachusetts Homœopathic Hospital during the coming season has just been issued.

Fully ten thousand people have attended these "talks" during the past four years, and the benefit to the community of such knowledge as has in this way been disseminated is incalculable.

The course this year promises to be exceptionally interesting and instructive, not only to the laity, but to the medical profession as well, for among the speakers will be many well known as authorities upon the subjects of which they will treat.

The fact that this service given from the busy lives of these men and women is purely gratuitous is a striking illustration of the altruism of those having to do with matters of health.

Following is the announcement of "Health Talks" for the season of 1915-1916:

1915

Nov. 2. "*State and Municipal Health Precautions.*"  
SELSKAR M. GUNN.

Director, Division of Hygiene, State Dept. of Health.

Nov. 9. "*Some Laws of Reproduction.*"  
A. W. WEYSSE, PH.D., M.D.

Prof. Physiology, Boston University.

Nov. 16. "*How to Secure Better Medical Service for Less Money.*"  
RICHARD C. CABOT, M.D.

Prof. Medicine, Harvard University.

Nov. 23. "*The Immigrant and Public Health.*" (*Illustrated.*)  
GEORGE W. TUPPER, PH.D.

Immigration Secretary, Y.M.C.A.

Nov. 30. "*Mouth Hygiene: Its Relation to General Health.*" (*Illustrated.*)  
LEROY M. S. MINER, M.D.

- Dec. 7. "*The Care of the Feet.*" (*Illustrated.*)  
GILBERT M. MASON, M.D.,  
Carney Hospital.
- Dec. 14. "*The Care of the Hair.*" (*Illustrated.*)  
WESLEY T. LEE, M.D.  
Lecturer on Diseases of the Skin, Boston University.
- Dec. 28. "*The Choice of a Vocation.*"  
DEWITT G. WILCOX, M.D.  
Prof. Gynæcology, Boston University.
- 1916
- Jan. 4. "*Rational Child-bearing.*"  
GEORGE H. EARL, M.D.  
Prof. Obstetrics, Boston University.
- Jan. 11. "*The Conservation of the Worker.*" (*Illustrated.*)  
FRANCIS D. DONOGHUE, M.D.
- Jan. 18. "*The Air We Breathe.*" (*Illustrated.*)  
HELMUTH ULRICH, M.D.  
Pathological Laboratory, Evans Memorial.
- Jan. 25. "*As a Man Thinks.*"  
FRANK C. RICHARDSON, M.D.  
Prof. Nervous Diseases, Boston University.
- Feb. 1. "*Facts About Sea Food.*" (*Illustrated.*)  
DAVID L. BELDING, M.D.  
Bacteriological Laboratory, Evans Memorial.
- Feb. 8. "*Sub-Standard Children.*"  
WALTER E. FERNALD, M.D.  
Supt. Mass. School for the Feeble Minded.
- Feb. 15. "*The Taking and Giving of 'Colds.'*"  
GEORGE B. RICE, M.D.  
Prof. Diseases of Nose and Throat, Boston University.
- Feb. 29. "*Occupational Diseases.*"  
DAVID L. EDSALL, M.D.  
Prof. Clinical Medicine, Harvard University.
- Mar. 7. "*The Man of Fifty.*"  
ELMER E. SOUTHARD, M.D.  
Clinical Director, Boston Psychopathic Hospital.
- Mar. 14. "*Occupation for Invalids.*" (*Illustrated.*)  
MISS SUSAN E. TRACY.  
Director, Experiment Station for the Study of Invalid Occupations.
- Mar. 21. "*Change of Life.*"  
ELIZA B. CAHILL, M.D.
- Mar. 28. "*The Brain.*"  
SOLOMON C. FULLER, M.D.  
Pathologist Westboro State Hospital for the Insane.
- Apr. 4. "*How the State Provides for its Mentally Sick.*" (*Illustrated.*)  
L. VERNON BRIGGS, M.D.  
State Board of Insanity.
- Apr. 11. "*How to Choose a Doctor.*"  
W. P. BOWERS, M.D.  
Sec. State Board of Registration in Medicine.
- Apr. 18. "*Microbic Invaders and Our Defenders.*" (*Illustrated.*)  
W. H. WATTERS, PH.D., M.D.  
Prof. Pathology, Boston University.
- Apr. 25. "*Sleep and Dreams.*"  
EDWARD WILLIS TAYLOR, M.D.  
Prof. Neurology, Harvard University.
- May 2. "*Summer Care of Babies.*" (*Illustrated.*)  
KARLTON G. PERCY, M.D.,  
Children's Hospital.
- May 9. "*Demonstration in Public Health Nursing,*" under direction of  
Miss M. H. P. BRIDGES.  
Practical Instructor of District Nursing Association.

# THE NEW ENGLAND MEDICAL GAZETTE

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## EDITORIAL ANNOUNCEMENT

The *Gazette* takes pleasure in announcing the election of the following men to the editorial staff: HAROLD L. BABCOCK, M.D., DAVID L. BELDING, M.D. and HELMUTH ULRICH, M.D.

Inasmuch as it is the purpose of the *Gazette* to serve as a publication for the various institutions throughout New England which represent the homœopathic wing of the medical profession, it has seemed advisable to enlarge the editorial board in order to give our readers a wider range of material. It will henceforth be the policy of this journal to supply reviews of current medical literature, which will by no means be confined to homœopathic publications nor to subjects directly pertaining to homœopathy. Nevertheless an especial effort will be made by the staff to bring to the attention of its readers such laboratory and clinical investigations as pertain directly or indirectly to the law of similars, and to awaken an interest among the profession to the advances in pharmacotherapy. Homœopathic periodicals are prone to two great errors. There is too much exaltation in a polemic vein of the wonders of homœopathy, and too little on the intensely interesting progress which is being achieved through laboratory and clinical investigations throughout the entire field of medicine. The *Gazette* is well aware that it has sinned in these respects, but with the completion of its fiftieth year it has taken steps to

overcome these faults. With these good intentions in view we hope to make this publication a representative periodical in which every member of the homœopathic school will find an interest. This can only be brought about by a liberal supply of material from those who have the energy and a worthy ambition to give out the results of their observations, their studies and their thoughts in the true professional spirit.

C. W.

### **BOSTON'S VISITORS TO THE CLINICAL CONGRESS.**

Boston was honored in the quality and quantity of surgical talent which she harbored during the week of the Clinical Congress of Surgeons. That such gatherings are productive of good there can be no discussion. The end results are far-reaching, both to the profession and the public. The doctor who fails to recognize the benefits to be derived from rubbing shoulders with his confreres is one who stands either with his shoulders so far above the highest shoulder mark, or so much beneath the lowest that he is hopeless in either event. It is rather noticeable, however, that at all medical gatherings of any importance the men of the high shoulder mark are usually present in proportionately large numbers. A day or two before the opening of the congress, a physician of Boston who aspires to do surgery, was heard to ask the question: "Is there any benefit to be derived from attending the clinics of the Congress?" Possibly not for him, but such surgical giants as John Murphy, Charles Mayo, Albert J. Oschner, Charles E. Kahlke and others of like eminence, thought there was benefit enough in it to induce them to leave lucrative practices and travel half way across the continent to do so. The chances are that none of these men would have become surgical giants had they been so short-sighted in their "pin-feather days" to have asked the question "Is there any benefit to be derived from attending a medical meeting?"

There is more in surgery than can be learned from text books or medical journals; there is the human touch and the personal observation, which after all become the magic wands of growth. "To see how the other fellow does it" may not do more than give one additional respect for, and confidence in, himself, but self-confidence backed by a correct measure of the *best* in others becomes a great asset.

There was some criticism on the part of the public press that the matters considered at the evening sessions were not given out freely for publication. If such were the case it was regrettable, as there was nothing discussed which should not

have had the widest publicity. The medical profession today has taken the public into its confidence and has nothing to withhold. Indeed, it fully comprehends that far better results can be accomplished both for the physician and the laity, in preventing and curing disease, by an open, earnest, cordial co-operation devoid of all old-time mysticism.

There is, however, the other side to the question; the average press reporter of today gets about as far from the real essence of the subject matter discussed when he attempts to report the proceedings of a medical society as a medical man might get in reporting a Hindu religious ceremony. What the press most needs in such matters is a medical censor.

D. G. W.

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### JOURNAL OF THE A.I.H. FOR NOVEMBER

The November number of the Journal of the A.I.H. is one which does credit to the Institute, our only criticism of the journal in this connection being that it is difficult to understand why the readers should have had to wait until November for this valuable material which was presented to the Institute in July. It has been a long time since the subscribers to American homœopathic periodicals have been given such a treat. Such a number does more for the cause of homœopathy than all the jingo propaganda workers can ever think of doing in the way of arousing interest in this method of therapeutics.

Nesbit's paper on "Mental Phenomena of a trial-proving of Coffea Cruda and Caffein on Healthy Human Subjects" is a masterpiece in drug-proving of which we have already had examples from this author. Hinsdale's paper on "Laboratory Studies upon the Action of Kali Bichromicum" is likewise a distinct contribution to medical literature, while the cold, condensed figures of Pearson's work on "The Urinary Phenomena of Coffea," though quite insufficiently summed up, has merit which others than homœopaths can find interest and enlightenment in.

Mellon's paper on "The Scientific Method of Drug Proving" embodies many of the ideas which have recently come to the minds of those men, who, with a modern laboratory training, are investigating the principles and practice of homœopathy. His criticism of the vague terms found in the materia medica and the repertories is especially worthy of consideration, and his suggestion of the refinement of our provings through laboratory methods involving immunological studies must be met with the hearty approval of all those who look upon homœopathy as a science of therapeutics, and not a divine catechism

handed down from Hahnemann, whose word is the last court of appeal. The discussion of Mellon's paper is interesting in that it shows the conservatism which permeates the school and the utter nonsense which may be propounded by certain individuals whose speech centers seem to be improperly controlled by their intellectuality and intelligence. Though the seed of such a paper may in many cases seem to land on barren soil, there are many who cherish these ideals held by Mellon, and upon those who do rests the future welfare of homœopathy. Drug provings we must have, in order to apply homœopathy at the bedside, but let us not neglect those investigations into the principles underlying this method of therapeutics. We are all apt to be too readily guided by the assumption that these underlying principles have no snares and pitfalls. For the American Institute to devote its funds entirely to drug proving is putting the cart before the horse.

C. W.

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#### DR. MAYO'S TRIBUTE TO HAHNEMANN

Every homœopathic physician who attended the second evening session of the Congress must have been greatly impressed with the opening remarks of President Charles Mayo when, in introducing one of the speakers, he used in substance these words: "Much of the progress made in medicine and surgery has been due to the men of vision. Samuel Hahnemann was a man of vision; the only trouble with him was that he had his vision eighty years ahead of his time. He was not understood. What he said about the action of drugs upon the healthy and their curative power for the sick is a proven fact about serums and vaccines." "It was so true," he said, "that it was almost uncanny."

Then Dr. Mayo called attention to the serums made from human gastric ulcers and diseased gall bladder tissues, remarking upon the selective affinity which these serums seemed to have for the stomach and gall bladder of the guinea pigs when administered to them, producing in the pigs conditions exactly similar to those found in the human subject from which the serums were made; and later when a vaccine was made from these same guinea pigs, it tended in turn, when so administered, to cure the ulcers and gall bladders in the human subject.

It was a remarkable admission coming from a man so prominent in old school ranks and delivered before an audience composed of the picked men of the American medical profession.

Can the day be far distant in which the whole truth of the Law of Similars will be recognized?

D. G. W.

## ORIGINAL COMMUNICATIONS

### THE STUDY OF MATERIA MEDICA\*

By FRANK W. PATCH, M.D., Framingham, Mass.

The title of this paper may seem a little ambiguous. It is not intended as an exposition of any special method of materia medica study but rather as a plea for a more comprehensive education in materia medica for students and a more ardent devotion to the subject on the part of physicians.

As a preliminary thought it may not be out of place to recall that in the early part of the nineteenth century the art of surgery was of minor importance, that diagnosis occupied but a shadowy place in medical education, and hygiene was as yet unknown; drugs held a place of chief prominence in the armamentarium of the physician.

The discovery of Homœopathy came out of the wilderness of medicine at that time as a wonderful and beautiful illustration of the application of natural law in the treatment of disease.

While Hahnemann's theories were flouted and the man himself persecuted by a large majority of the medical profession, many of the keener minds accepted his teaching readily and with enthusiasm.

The first school for the training of students in Homœopathy was established in this country in 1835. Instruction was given to a few students by a handful of old world men in the German tongue. From this seed Homœopathy has spread until its devotees are numbered by thousands.

Schools, good, bad and indifferent, multiplied until in the period between 1900 and 1905, when there were twenty-two homœopathic medical colleges in active operation in this country. In all some forty institutions had been established during the seventy years.

The handful of Allentown students had grown in a like period to number an attendance of nearly two thousand, and the graduates in the period between 1900 and 1905 ranged from four hundred to four hundred and twenty annually.

The forces at work in these years in the medical profession were interesting and far reaching.

Homœopathy itself was a protest, and in some measure through its influence, as one feature, methods of medical education and practice have been revolutionized.

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\* Read before the Western Massachusetts Homœopathic Medical Society, Sept. 15, 1915.

We may think of the years between 1900 and 1905 as the high tide of Homœopathy in America, and may study later developments from that point.

In the period between the introduction of Homœopathy and 1900 we have witnessed the birth of hygiene, the introduction of modern surgical technic, asepsis and better methods of anæsthesia, all contributing to the most remarkable development that the medical profession has ever seen.

As a natural consequence, surgery came to be held in the greatest esteem and the field for its application widened with each succeeding year. Hardly any disease but at one time or another became the subject of surgical exploitation.

In consequence of these great changes it was only natural that many of the older practices should fall somewhat into desuetude.

Physicians, especially those who followed blindly in the track of popular methods of the day, began to look askance at drug usage, and we heard on all sides of the uselessness of medicine in a majority of the diseases we were called upon to treat. While the great bulk of physicians were still using old methods, as illustrated by their polypharmacial prescriptions, the more advanced wing of the profession was teaching the non-usage of drugs in a majority of instances.

Dependence was to be placed upon hygienic and surgical methods.

The homœopathic end of the profession, while distinct from the old school bodies, is nevertheless an integral part of the medical body of the world, subject to all the great waves of feeling which sway a group of men, familiar with the light of the old school as well as their own and in most ways participating in the currents of thought that are prevalent in the general body.

It was only natural, under these circumstances, that there should have been a growing neglect of the study even of homœopathic materia medica.

Physicians of our School were influenced by their brethren of the old school consciously or unconsciously. Progressive surgery became as much a part of the homœopathic School as of the allopathic.

Hygienic measures were adopted more and more frequently, and likewise homœopathic physicians, especially those who had fallen more directly under the teaching and influence of surgeons, became in a large degree sceptical as to the value of drugs in the treatment of disease. In fact, they had little time or opportunity for materia medica study and consequently could understand little of its worth.

Men who practiced strictly according to the law of Similars were looked upon with a certain degree of suspicion; their case reports were often questioned, and it was felt by the many that these men were not keeping abreast of the times.

To be sure, the materia medica branch of our profession may have justly brought upon itself well deserved criticism through neglect to investigate methods which may or may not have been preferable to their own.

Like all such controversies mistakes were made on both sides.

I am simply stating facts and endeavoring to show the course of events as they appear in glancing backward.

Beginning about the year 1904 or 1905, however, other great influences began to be evident from without as well as within which are now bearing fruit.

In the first place, the matter of medical education has been and is still being revolutionized.

We who practice in one corner of the country can scarcely realize, without a more extended survey than may be had from a limited point of view, the remarkable changes that have taken place in this time.

Again it is necessary to refer to our own especial School merely as a part of the body politic of medicine, impossible of separation from the larger group.

The combined influence of the American Medical Association through its Educational Council, of our own Collegiate Council, of the Carnegie Foundation and the State Boards have brought about such sweeping changes that the medical students of twenty-five years ago would be entirely at sea in the college of today.

Standards of admission have been raised and unified until at the present time, or within one or two years hence, all high class medical institutions in the country will require two years of college work as a preliminary to the study of medicine.

Think of what this one change alone will mean in the course of a generation.

Within the memory of every man present any boy of eighteen who had spent two or three years in an indifferent high school was eligible to the study of medicine. At twenty-one he was graduated, — a full fledged physician. To be sure he may not have had more than one or two confinement cases, or ever have reduced a fracture, yet nobody could gainsay his right to practice, as there were no troublesome State Boards to get by at that time.

This condition of affairs was not limited by any means to our own branch, but similar conditions were to be found in the "regular" school as well.

The four years graded course is now required in all medical schools, and a large majority of the students add to this a fifth hospital year which has indeed become a requirement in one or two of the States.

State Board Examiners in many instances are already refusing application for examination from any who have not had one or two years of college work preliminary to medical study. This rule is bound to become universal within a few years.

Methods of teaching have also improved and developed. The necessity is now recognized that instruction should be given by qualified men and in the Departments of Anatomy, Physiology, Chemistry and kindred branches full time, paid instructors are the rule.

University connection is desirable for medical schools. Numerous branches have been added and laboratory and clinical teaching have been greatly extended until now every graduate in medicine from a Class A college must have had actual experience in the practice of medicine and in the observation of every form of sickness imaginable through hospital and dispensary facilities.

You may ask what all this has to do with the study of *materia medica*. It is simply an effort to bring out the side lights which have for many years played on this important topic.

Some ten or fifteen years ago there began to be a more conservative tone in the surgical field. In spite of the great beneficence of operative procedure it was recognized that all disease was not operable. More careful and minute methods of diagnosis and a more careful study of morbid pathology illustrated and defined the actual field of surgery more clearly than had been the case heretofore.

The discovery of vaccine therapy in the old school stimulated experimentation in all fields of medicine to a wonderful degree.

Pathological laboratories improved; microscopical technic and the establishment of highly endowed institutions of research made possible a great advance along all lines.

And right here I want to emphasize again the influence of the general profession upon the study of homœopathic medicine.

Homœopathy in all these years of progress and change had been content to maintain its own standards clinging rightly to the proven methods of Hahnemann. Its adherents had profited by the advance in various medical channels; many adherents of homœopathy, while nominally following the leadership of Hahnemann, had, however, branched out into various methods adopted by the old school from time to time, though the

majority had clung to and fought for the purity of the old practice, claiming that nothing had yet been discovered to supplant the methods of Hahnemann in the application of drugs to the treatment of the sick, following these precepts except in the use of mechanical measures applied to mechanical conditions.

We may even state freely today that in all the many fields of investigation nothing as yet has occurred to in any way shake the foundations on which rest our usage of drugs.

The very fact of the existence of the homœopathic school and homœopathic methods for more than one hundred years is in itself fairly good evidence of the practical truth underlying the theory of our practice. What other medical precept can show a like tenacity?

Furthermore much of the recent work in experimental pharmacology in the old school tends to confirm the work of Hahnemann by means of laboratory tests.

It is here that the crux of these few remarks will be found.

We have clung to our principles, fought our battles, cared for our patients and lived by the philosophy of Homœopathy through these many years.

The days of persecution are over, but the days of absorption are at hand unless we bestir ourselves.

Beginning with work in vaccine therapy, place it where you will, therapeutic study has been stimulated to a remarkable degree until today work is going on in the old school ranks which might well be done in the homœopathic laboratory.

We may differ among ourselves as to the exact place which vaccine and serum therapy may eventually occupy in their relation to bona fide Homœopathy, but there can be no doubt as to the position of experimentation in drugs which is now going on.

Within the past year a professor in a well known old school medical college has reported his methods with a number of common drugs, several of which are familiar figures in our materia medica.

In his studies he does not, of course, use the term homœopathic, but his experiments were conducted with single drugs in dilution and the observations made were similar to our own.

He obtained the pollen of certain plants from which he made with alcohol what he calls a "stock solution" or what we should call a mother tincture. From this he made dilutions of greater or lesser strength which he uses in the treatment of disease.

An interesting observation in connection with his experiments was his method of determining the sensitiveness of the

individual patient to a given drug through applying the extract to the skin and observing the amount of irritation resulting from its use. The absence of this skin reaction proved to him the non-applicability of a given drug to the individual or, in other words, a want of homœopathicity existing between the drug and the individual.

His methods in many ways might seem cumbersome in comparison to our simple plan of proving, yet the results are not far different. He has as yet developed no systematic method of observation which can aid him to individualize in the application of drugs to patients except through the skin reaction. He has evidently not grasped the underlying principle, and it goes without saying that the medicines were given hypodermatically. The results, however, were good though rather impossible of application by the ordinary practitioner on account of the cumbersomeness of the methods employed.

It is most significant, however, as an example of the *materia medica* study that is going on outside the realm of the homœopathic school and should point emphatically to the fact that Homœopathy is rapidly being rediscovered through the laboratory by our friends who have heretofore stood aloof.

The energy and ability that is being shown today in the old school laboratories is a stimulating example and should prove among other things that if ever there was a time when homœopathic physicians should insist on the value of their well known and well proven methods of drug usage that time is today. It is early to forecast the future.

The influence of infinitesimals on the human body has been proven over and over again in recent years outside of our own especial field of medicine.

A knowledge of the value of drugs in small doses is no longer limited to Homœopathy.

Recent and manifold studies have proven beyond a doubt, even to old school physicians, the value of the single remedy. They are no longer teaching the use of conglomerate prescriptions, and a homœopath who alternates his medicines or gives remedies in combination would not today be tolerated by thinking old school men who are modern in their practice.

However, let us not sit back complacently in self satisfaction now that we begin to see glimpses of the possibility of some degree of acceptance of our methods by the profession at large. Self-complacency has been our undoing more than once in the past. Vigorous aggression should serve us better in the time to come.

In the evolution of medical education recently mentioned the number of homœopathic colleges has been reduced from

twenty-two existing in 1900 to ten, and of this ten two are simply homœopathic departments of old school institutions.

Our graduates now number less than two hundred annually, not enough to take the place of the older men who drop out from year to year; but this need not be a disturbing element.

The colleges which have survived the great upheaval of the past ten years, which has been not less apparent in the opposite school, are our strongest and most dependable institutions. It is more than possible that this number may necessarily be even further reduced in the future. Be that as it may, it is evident that our best institutions are going to survive.

Now there is only one possible reason for the existence of any homœopathic college, which is that Homœopathy may be taught. In other words, that we may have instruction in materia medica and therapeutics from the homœopathic point of view in all departments where questions related to applied therapeutics arise.

As far as preparatory work is concerned there is no difference in the teachings of any first-class medical college of either school.

Anatomy, physiology, chemistry and all the great foundation sciences of medicine are possible of only one interpretation. The wonderful art of diagnosis is not influenced by the handling of drugs; no more is preventive medicine, the coming big field of the profession. The specialties differ only in as much as they are capable of being influenced by the application of therapeutic measures.

Homœopathy is a system of therapeutics, of drug usage, and deals with the proving of drugs on the healthy and the application of drugs to the treatment of the sick. As this application is concerned directly or indirectly with many branches of treatment it is undoubtedly for the best interest of our art, for the present, that it be taught in so-called homœopathic colleges, and if it is to be taught let us see to it that the institutions now remaining shall be valiantly supported and especially that the teaching of materia medica shall be on a basis of purity and efficiency and that the application of Homœopathy to the treatment of disease be illustrated through all possible clinical means and that the advantage of our methods be shown from day to day at the bedside and in the clinic.

Furthermore, let us see that our chairs of Homœopathy are at least as well endowed as our chairs of anatomy and physiology, in order that there may be money to develop suitable laboratory instruction that shall be on a par with that of the best institutions of any school.

The time has come when no homœopathic physician need

be ashamed to look a brother member of the profession in the face with the affirmation that he is proud of his lineage. The time has also come when our schools should be sufficiently endowed and our laboratories equipped and our men so trained that we do not have longer to depend upon outside sources for investigation and confirmation of our work from the laboratory as well as the clinical point of view.

And all this depends more largely on the attitude of the homœopathic profession in general than upon any other possible influence.

The schools must rely upon their alumni for students, and the character of the students is largely determined by the profession at large which has an opportunity to influence the right kind of young men to join our ranks and to see that they are in line to become thoroughly educated and equipped.

The rapid advance in the standards of medical education in recent years has naturally had a large influence in diminishing the number of students, and while it may be true in old school fields that the number of physicians is still beyond the natural demand, it is not true in our own immediate field, for inquiries are constantly had for homœopathic physicians to fill vacancies in communities where a lucrative practice is to be assured.

Hospitals are finding it difficult to get internes from our ranks, and, generally speaking, the opportunities for success were probably never better than today.

Yet no matter what may be our advantage in the possession of a knowledge of Homœopathy, the inquiry today is not of the school to which a physician may belong but, is he thoroughly educated and up to date; and so if we are to compete in the struggle for supremacy we must insist not only upon superior instruction in consistent Homœopathy which includes the philosophy of our practice and a knowledge of *materia medica* and its application.

Without this I believe our institutions are doomed, for while no education in Homœopathy can be of the slightest value that does not include equal proficiency in all kindred medical branches, likewise no homœopathic institution can survive very long under present-day conditions if it fails to instruct its students in pure Homœopathy, the foundation on which our whole structure rests.

The men in close touch with the colleges now realize this fact and are striving with all possible effort to fulfil their trust, but they need the untiring support of the men in the field and they need money with which to further develop their great work.

## THE CAUSES AND PREVENTION OF CONVULSIONS IN MATERNITY CASES\*

By J. RICHEY HORNER, A.M. M.D., Cleveland, Ohio

The etiology of eclampsia has been under investigation for three quarters of a century. Lever is credited with having pointed out in 1842 the close connection between albuminuria and eclampsia, going so far as to say that the former always induced the latter and the latter never existed without the former. Urea was charged with being the toxic substance, as were also the products of its decomposition. Another theory was advanced, namely, that there is a combination of various extractive matters as creatin, creatinin, etc., which with urea are retained in the blood. Still another proposition was made that there is an accumulation in the blood of all of the elements of the urine. However the exact correctness of these theories may be decided, there can be no question that eclampsia follows a form of renal failure whose sequel is the retention and circulation in the blood of a toxic element and that by this poisoned blood the brain and the nerve-centers are brought into the irritable condition resulting in the convulsions.

Immediately arises the question, Why should renal disease occur in pregnancy? Various replies have been made to this question, all of them indeed based upon mechanical conditions. One was that the kidneys are persistently in the condition of passive congestion, due to pressure upon them and their venous supply. Another, that there is pressure upon the ureters with a further change by virtue of their being stretched, flexed and compressed by the upward course of the gravid uterus, and that the persistent urinary stasis thus produced causes alteration in renal tissue.

It is perhaps conceded that there is no real difference between eclampsia of azotemic origin and true uremia, but that it is probable that the intoxication results from the intermediary and not from the end products of nitrogenous metabolism and their retention in the nerve and muscle cells due to a deficiency of the requisite mineral substance in the circulation.

We must not, however, in view of some facts permit ourselves to accept a proposition that eclampsia is dependent exclusively upon renal disease. It has been shown in some instances that an actual cerebral lesion is responsible for the occurrence of the convulsions. In a larger number of cases, though small relative to those dependent upon renal disease,

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\* Read before the Southern Homœo. Med. Association, Cincinnati, O., Nov. 11, 1915.

convulsions arise solely from reflex irritation, the center of this source of irritation being in another organ, quite frequently the bladder. In a case of retention of urine due to pressure of the head of the fœtus upon the neck of the bladder, permanent cessation of the convulsions followed emptying of the bladder. Soluble toxic ptomaines have been found in the blood of the eclamptic, which were believed to be the cause of the attack.

Eclampsia has been associated definitely with cases of accidental hemorrhage and has been claimed to be due to early autolysis of the placenta because, first, toxæmias are especially associated with recent infarction of the placenta. Second, placental infarction is due to interference with the maternal blood supply of the part. Third, interference with blood supply not dependent on the toxic state may occur in an extreme form where there is no evidence of toxemia, as, for example, following accidental hemorrhage, and, fourth, the placenta is so constructed that if a part of it die the products liberated from the dying patch can pass directly into the blood stream.

Summarizing these suggestions concerning the etiology of eclampsia we may say, first, there is no single cause for the convulsions any more than there is for epileptic convulsions. Second, in the majority of cases the disease results from a toxemia, the poisonous agent not always being the same, but usually in all probability uneliminated organic constituents of the urine. Third, in these toxic cases the clinical symptoms and the amount of albumin in the urine are of secondary importance to the urea output in foretelling convulsions. Fourth, convulsions may follow and be the result of organic brain disease or reflex irritation.

In prevention of the occurrence of convulsions we may take into consideration the possibility of the mechanical pressure above noted in which the permeability of the ureters is altered. Postural treatment should be of decided benefit, the frequent assumption of the genupectural position being helpful.

It being granted that the greater number of cases depend upon the failure of elimination, the obvious procedure must be to adopt such measures as will increase excretion. Fluids should be taken in large quantities, particularly if the excretion of urine falls below 1200 c.c. in the twenty-four hours. Of particular aid is the ingestion of hot water, at least one-half a pint of which should be taken a number of times a day. The skin should be kept in good condition and bathing permitted only under the greatest precautions for preventing chilling of the body. While it cannot be said that a diet of milk prevents the development of eclampsia, at the same time milk should be the principal food and should be low in fat contents.

The lowering of the phosphorus content in the internal tissues means that the formation of urea is hampered and an autointoxication results. It is a fact that the average diet of today is very deficient in phosphorus and calcium, and the marketable flour of today contains but little of either. The practice of polishing and coating rice has deprived this food stuff of much of this phosphorus and of other bodies which are indispensable to the maintenance of health. A prime indication in guarding against eclampsia is that the diet should contain an abundant supply of the mineral substances required by the system.

A very important article by Dr. Stephen H. Blodgett on this subject appears in the *Medical Record* of March 20, 1915. The Doctor has been investigating eclampsia for the past five years, having published a result of two years of the investigation in the *Record* of January 13, 1912.

Deducing a theory regarding the possible causes and prevention of convulsions, he notes the results when changes were made in the diet of the prospective mother. Watching carefully the amount of urea excreted by the kidney, he strictly eliminated meat and fish from the diet of the woman whenever this excretion fell below what appeared to be normal for the patient. An examination was made of the urine every three weeks during the first half of her pregnancy and every two weeks after that time. His figures cover investigations of over 1500 confinements occurring during the period of two years. Whenever the elimination of urea fell below 15 grams he prohibited the eating of meat and fish. The presence of albumin was not considered to be a vital factor in the cases, though this was carefully noted. His statistics for 1909 and 1910 showed convulsions occurring in two per cent of the confinements, while for the two years 1912 and 1913 this was reduced to less than one tenth of one per cent. Very few of the patients received medicine, and this only where necessary to keep the bowels in normal condition.

After the first convulsion has occurred we must attempt to prevent the occurrence of others. The ordinary means used has been chloroform, but there is an objection to this because of its action upon the liver. A rapid destruction of the hepatic cells may follow and throw into the circulation secondary poisons that assist in causing convulsions, as these lesions are increased by the administration of chloroform. It should be given, however, immediately upon indication of the reappearance of the convulsion, though in just as small quantities as will produce an effect.

Morphine is recommended and used in massive doses; as

much as  $1\frac{1}{2}$  grains has been given hypodermically and repeated in two hours. If there is a probability of the induction of premature labor being necessary, the use of morphine is dangerous because it leads to a shock to the nervous system, and this shock added to that imposed by immediate delivery after rapid artificial surgical dilatation oftentimes kills the eclamptic.

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### A BRIEF REVIEW OF THE FUNCTIONS OF THE NORMAL SPLEEN

By GLADYS H. BROWNELL, M.D., Boston, Mass.

The spleen, one of the accessory organs of nutrition, is essentially a lymphatic gland, purplish in color, weighing about 195 gms. and situated in the left hypochondrium behind the stomach. Histologically the splenic pulp consists of a delicate reticulum possessing a rich maze of nerve fibers, consisting of axis cylinders of sensory origin, and supporting a large number of red blood corpuscles, lymphocytes, and pigments. Here the outer coat of the arteries is replaced by lymphoidal tissue forming nodules, the malpighian corpuscles; and, later, the arterioles terminate in columns of lymphatic tissue, the pulp cords, while the venous radicals have their beginning in small blood lakes surrounding these cords and are lined with a peculiar type of endothelial cell. Physiologically, the spleen should be considered as a sponge with a muscular covering, the capsule, possessing alterations in volume succeeding one another without intermission at regular intervals of one per minute; the whole organ, acting in the same manner as the muscular walls of the arterioles. As seen, the spleen may, in a measure, control its own blood supply and so act as a reservoir or pump to the portal circulation. Splenic contractions are extremely responsive to all fluctuations in general blood pressure, are subject to control through the central and sympathetic nervous systems, are sensitive to the action of drugs, and easily influenced by changes in bodily conditions.

The functions of the spleen are, for the most part, still unknown. However, because of extensive research we are able to discuss first, a hæmogenic function, second, a metabolic, third, a secretory, and fourth, a protective function.

I. Hæmogenic functions. It can be seen from the histology alone that the blood meets with great resistance in passing through the close network of the splenic pulp, in fact, it is the only organ in the body where the blood comes in actual contact with the tissue elements. So close is the relationship that it has been found impossible to free the tissue from blood. The first conclusive evidence of the hæmogenic function of the spleen was determined by a series of counts comparing the blood in the splenic artery with that of the vein. It was learned that the venous blood possessed nearly seventy times as many leucocytes as the arterial, with an excess of the large mononuclear type, that there was a marked decrease in the number of erythrocytes, but that those present were perfectly formed with a high hæmoglobin content. The great increase in leucocytes is due to their elaboration in the malpighian corpuscles, while the destruction of effete red blood discs is the work of the adult spleen, and only in case of grave anæmias can the organ return to its embryonal function and produce red blood corpuscles. The work of King indicates that the spleen is active in producing unsaturated fatty acids, that hypersplenism would mean an overproduction of these compounds with a subsequent increased destruction of erythrocytes. In addition to this, the endothelial cells lining the venous lakes possess a phagocytic action for worn out red blood discs, and it has been suggested from the close nervous relationship to other blood-forming organs there may be some regulation of the production of the cellular elements of the blood.

II. Metabolic functions. The spleen is also an organ of iron metabolism, and, with the liver, it retains the iron set free by the disintegration of the erythrocytes. By a series of experiments on dogs, it was discovered that the iron excretion in a splenectomized dog, on a regular diet, is far in excess of normal, while an unused dog fed an *iron-free* diet would eliminate the usual amount, even after a long period of time. On the other hand, an iron-free diet after the removal of the spleen would soon cause a severe anæmia as shown by diminution in discs and percentage of hæmoglobin. We find the spleen of but little importance in storing iron that has been artificially introduced into the system, but rather it works up the iron set free in the destruction of body material containing that metal, so that, while always rich in a deposit of iron, there is a remarkably high percentage in all chronic wasting diseases. The spleen

is also, by some observers, supposed to possess an inhibiting hormone, affecting the iron excretion from other organs, such as the liver, and from this they explain the exaggerated iron excretion in patients following splenectomy.

III. Secretory functions. The proximity of the spleen to the digestive organs, the post-prandial expansion reaching its maximum size about five hours after a meal, would suggest a relationship to the digestion of food. Meyer claims, after extensive experimentation, the production of a substance or substances which causes, or promotes, peristalsis. Pryne in work on the relative importance of the spleen to the digestion, proves that the assumption that there is an excitant of pepsin excretion in the spleen, as was formerly supposed, is false. However, Laquesse and Opie found that by ligating the splenic vessels no pancreatic digestion followed. This was repeated again and again, with always the same result, proving beyond a doubt the spleen to be the seat of some ferment, liberated into the blood stream at digestive periods, and capable of activating the trypsinogen in the cells in the Islands of Langerhans in the pancreas. The liberation of trypsin is not only of importance in the digestive function, but in the blood stream it protects the organism from the effects of toxic derivatives of albuminoid bodies. For example, it is a constituent of the antitoxin which splits the toxins of the diphtheria bacillus, and also explains the inhibiting influence the spleen was noticed to exert on neoplasms grown in chicken embryos. Again, in connection with digestion, the spleen shows evidence of active combustion processes by the presence of purin bases and uric acid, and a protein, rich in carbon pigment.

IV. Protective functions. During the course of many infectious diseases, there is a noticeable increase in the size of the spleen, the entire reason for which is not as yet understood. However, enough has been said to reckon it among the protective organs of the body. Against bacterial invasion Pfeiffer has demonstrated experimentally the spleen to be one of the sources of bodies bacteriolytic for the cholera bacillus, while Wassermann has succeeded in finding a specific typhoid bacteriolysin.

After removal of the spleen, its work is taken up by the thymus and the mesenteric and thoracic lymph nodes. These according to Bayer, are capable of functionally compensating or supplanting the spleen, which, explains their enlargement following splenectomy.

## SOUND-ANALYSIS IN THE COCHLEA: A REVIEW\*

By HAROLD L. BABCOCK, M.D., Boston

The exact manner in which sound waves are interpreted by the internal ear has been the subject of much investigation and even more speculation. In fact, the functional activity of the organ of hearing has been the least understood of any of the special senses.

Investigations on this subject may be roughly divided into two groups: (a) Anatomical, and (b) Physico-physiological, — the latter being almost wholly theoretical.

Cotugno in 1760 was the first to demonstrate that the labyrinth contained fluid. Previous to that time theories regarding the existence of a vibrating mechanism in the cochlea, responding to impulses of sound waves, were based on the assumption that the latter contained air. Such theories were existent as early as 4 B.C., Aristotle claiming that there must be air in the head to respond to the sound vibrations in the outer air. However, today there seems to be unanimity of opinion regarding all questions of function save one: what constitutes the vibratory mechanism.

Before taking up a consideration of the function of the cochlea, a brief review of its anatomy will be of benefit.

The bony cochlea constitutes the anterior part of the labyrinth and appears as a short blunt cone, about 5 mm. in height, whose base forms the anterior wall of the inner end of the internal auditory meatus. Its apex is directed horizontally outward, somewhat forward and downward, and reaches almost to the Eustachian tube. Its large, lower turn bulges into the tympanic cavity and produces the conspicuous elevation of the promontory seen on the inner wall of the middle ear. The bony cochlea consists essentially of a tapering central column, the modiolus, around which the bony canal, about 30 mm. long, makes something more than two and one-half spiral turns, the basal, middle, and apical. The conical modiolus has a broad concave base which forms part of the base of the cochlea, and a small apex which extends nearly to the apex of the cochlea, or cupola. It is much thicker within the lowest turn of the canal than above, and is pierced by many small canals for the nerves and vessels to the spiral lamina.

Projecting at a right angle from the modiolus into the canal of the bony cochlea is a thin shelf of bone, the lamina spiralis ossea, which is made up of two delicate bony plates

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between which are fine canals containing the branches of the cochlea nerve. The partial division of the canal of the bony cochlea effected by the osseous spiral lamina is completed by the membranous spiral lamina, which stretches from the free edge of the osseous lamina, to which it is attached, to the outer wall of the canal. The upper division of the canal is called the scala vestibuli and communicates with the vestibule, while the lower division, the scala tympani, would open into the tympanic cavity were it not separated from that space by the secondary tympanic membrane. The scalæ communicate with each other through an opening, the helicotrema, at the apex of the cochlea. They contain perilymph.

The membranous cochlea lies within the bony cochlea and like it includes from two and one-half to two and three-quarter turns. The tapering tube of the bony cochlea, winding spirally around the modiolus, is subdivided into three compartments by the osseous spiral lamina and two membranes, namely, the basilar membrane and Reissner's membrane. The former extends from the free border of the lamina spiralis ossea to the outer wall of the cochlea. The latter extends from the upper surface of the osseous lamina near its outer end, obliquely upward and outward to the external wall of the cochlea. The compartment between these two membranes, triangular in cross section, is the ductus cochlearis. This contains endolymph, and is a closed sac except for a small canal connecting with the sacculus.

It is in this spiral sac, the ductus cochlearis, situated on the basilar membrane that we find the so-called organ of Corti, said by some anatomists to be the highest example of specialization of neuroepithelium.

Braun and Friesner divide this organ into five parts for description:

- (1) Sense epithelial cells, or hair cells;
- (2) Sustentacular cells (rods of Corti and cells of Deiter);
- (3) The membrane tectoria;
- (4) A reticular membrane which overlies the hair cells, and is connected with the sustentacular cells;
- (5) The endings of the auditory nerve fibers.

The hair cells are columnar in shape with rounded bases and are arranged in four or five rows, in two series, separated from each other by the rods of Corti. These form a double row of peculiarly shaped cells, which starting far apart on the basilar membrane, incline toward each other as they rise, finally meeting at their apices. They rise stiffly from the basilar membrane, and from their arrangement are evidently supporting cells. To

their upper free ends the reticular membrane is attached. The cells of Deiter are also supporting cells.

The tectorial membrane is a gelatinous structure attached to the upper surface of the bony spiral lamina. It extends out over the organ of Corti like a thick cushion, the hairs of the hair cells projecting against it. The nerve fibers of the cochlea are derived from bipolar cells which form a spiral ganglion at the outer surface of the modiolus.

With this review of the anatomy of the cochlea, we can now turn to its physiology. Its chief function is the interpretation of sound transmitted through the air as sound waves, the latter consisting of longitudinal vibrations of the air molecules, with alternate phases of rarefaction and condensation.

These sound waves are more or less imperfectly collected by the auricle and reach the tympanic membrane through the external auditory canal. Owing to the relatively small size of the cochlea these sound waves must be reduced in amplitude and increased in intensity before passing through the oval window. This is accomplished by the chain of ossicles which acts as a bent lever, with the result that the force of the motion produced in the tympanic membrane by the atmospheric sound waves may be increased thirty times in the transformation and transference of the motion to the base of the stapes, and that the amplitude of the atmospheric waves may be reduced as much as seventy-six times. When these modified sound waves finally reach the organ of Corti, they are taken up and transformed into nerve impulses, to be recorded as sensations of sound.

As to whether sound analysis takes place in the cochlea or in the cerebral cortex, investigators differ, the majority taking the former position. In support of this view are the following facts as enumerated by Braun and Friesner:

- (1) the extreme complexity of the cochlea, with the many thousands of hair cells and nerve fibers;
- (2) the occurrence of tone islands, i.e., the absence of hearing for certain notes when portions of the cochlea are diseased;
- (3) the occurrence of diplacusis, i.e., the double hearing of a single tone analogous to double vision;
- (4) the experiments of Wittmaack, Siebenmann and Yoshii, who showed that certain definite portions of the cochlea degenerated in animals, as a result of exposing them for a long time to a continuous sound of a certain pitch.

The resonator theory of Helmholtz which was one of the earlier attempts to explain theoretically the phenomenon of sound analysis, still remains a widely accepted explanation today and is typical of one group. This theory involves the sympathetic vibrations of the different fibers of the basilar membrane in resonance with the atmospheric waves as transmitted to the endolymph by the tympanic membrane and ossicles, and it assumes that the cochlea has the power of analysis of sound waves, both simple and compound (or that the perception of tone is mediated by different parts of the cochlea).

The basilar membrane, although one membrane, Helmholtz considered to be a series of strings or fibres loosely bound together by a soft, interfibrillary substance. It contains (by estimate) from 15,000 to 25,000 fibres.

They are shortest at the beginning of the basal whorl and gradually become longer toward the apex of the cochlea and vary in length, according to Hensen, between .041 mm. at the base and .495 mm. at the apex.

Helmholtz believed that each fibre could vibrate independently of all the rest, and did so vibrate in harmony with a certain tone, just as a string in the vicinity of a piano will vibrate when the corresponding note is struck. Any particular fibre in the basilar membrane having been set in motion, the corresponding hair cell is stimulated and the impulse carried to the cortex, the tectorial membrane acting only as a damper.

Ewald believed that the fibres of the basilar membrane do not vibrate separately, but that the entire membrane vibrates as a whole; that there is a certain "vibration picture" for each tone, or series of tones, while Barth takes the other extreme that the separate hair cells respond by direct stimulation from special movements of the endolymph.

In opposition to this older group of otologists and physiologists who attribute the important role to the basilar membrane and hair cells, there is another more recent group including two American investigators who take the position that it is not the basilar membrane but the tectorial membrane whose vibrations stimulate the hair cells.

Hardesty, working on the cochlea of the pig and the pig embryo, studied the tectorial membrane especially in regard to its role as a vibratory mechanism and arrived at the following conclusions: "Its specific gravity is but little greater than that of the fluid in which it lies. It possesses a small amount of elasticity, barely sufficient to cause the thicker apical region to resume its normal coils while the membrane is suspended in fluid after being freed from its attachment. It is remarkably flexible to stress applied transverse to its long axis. Its struc-

ture consists of multitudes of delicate fibers of unequal length embedded in a transparent matrix of a soft collagenous semi-solid character with marked adhesiveness. From its study in both the fresh condition and in preparations, it is concluded that the tectorial membrane projects free over the organ of Corti and is attached only along its inner zone upon the labium vestibulare of the spiral limbus. To the several objections advanced by others to the assumption that the basilar membrane performs resonant vibration, there is added evidence that the basilar membrane is nothing more than a flat tendon composed of a lamina of interconnected bundles of white fibrous connective tissue whose purpose is merely to strengthen the floor of the ductus cochlearis and the position of the organ of Corti, and which are too rigid and firmly associated to allow of resonant vibration. And, further, even if resonance were anatomically possible in the basilar membrane, the two layers of tissue on each of its sides would be sufficient to damp such action."

Hardesty applies the telephone theory to the tectorial membrane instead of the basilar membrane. He believes that the agitation of the hairs of the hair cells is brought about through the actual movements of the tectorial membrane induced by the wave motion transferred to the endolymph. He argues that the tectorial membrane is in a logical position for such action, while the basilar membrane is both covered and obstructed. The specific gravity and one-sided attachment of the tectorial membrane are also in favor of its being the vibrating body; also its extent, shape, proportions, consistency, structure, and the probable character of the transformed sound waves in the endolymph of the cochlea.

Shambaugh's conclusions are in the main similar to those of Hardesty. He considers the tectorial membrane to be the vibrating mechanism and that "tone islands," tinnitus aurium and diplacusis binauralis dysharmonica are explained by a resonating tectorial membrane.

He has shown that the basilar membrane is absent at the base of the whorl, while Corti's organ is found there.

The principal conclusion at which he arrives is that stimulation of the hair cells of Corti's organ is the result of the interaction between their projecting hairs and the tectorial membrane, brought about by the vibration of this membrane in response to the impulse of sound waves passing through the endolymph, and that circumscribed areas respond in the several parts of the cochlea, each for a tone of a particular pitch, in other words, by sympathetic resonance.

A word in regard to the "Brain Analysis" group of workers,

who maintain that sound analysis does not take place in the cochlea but in the brain cortex. They consider that the entire basilar membrane vibrates with every tone, much as the disc of a telephone receiver vibrates. This is known as the "telephone theory" and has been elaborated by Rutherford, Waller and Meyer.

This theory differs from that of Helmholtz in that it assumes that the basilar membrane, instead of certain of its fibers vibrating in sympathy with given notes, vibrates as a whole to every note in so far as the original amplitude of the wave will allow, and that the auditory nerve fibres transmit to the brain stimuli of frequencies and intensities of the note or notes concerned.

Bryant supports the brain analysis theory in a report of cases collected from the literature in which functional examinations were made and later post-mortem histological examinations. These cases showed no uniformity of relationship between the tones that were not heard and the portions of the cochlea which were diseased.

This theory, however, fails to account for "tone islands."

From the foregoing analysis of the work done up to the present time on this very intricate problem it appears most probable that in the analysis of sound waves in the cochlea by the organ of Corti, Reisner's membrane plays little if any part; the basilar membrane, — a thin, flat tendon, — merely supporting the organ of Corti; while the real vibratory mechanism, responding by sympathetic vibrations in circumscribed areas to the modified sound waves conducted through the ossicular chain, is the tectorial membrane.

Siebenmann's Experiments with Guinea pigs exposed to the continuous Sound of a Tuning Fork.



$c^5$  = Shaded portion indicates region showing degenerative changes in cochlea when  $c^5$  fork is used.

$f^2$  = Shaded portion indicates region showing degenerative changes in cochlea when  $f^2$  fork is used.

$g$  = Shaded portion indicates region showing degenerative changes in cochlea when  $g$  fork is used.

Guinea pigs were exposed to continuous sound waves for several hours each day during several months.

**PNEUMO-MASSAGE IN DISEASES OF THE MIDDLE EAR**

By HERBERT DANA SCHENCK, M.D., O. et A. Chir., F.A.C.S., Brooklyn, N. Y.

For many years the writer has been using, with what seemed to him considerable success, a treatment for middle-ear deafness that is simple, harmless, easy of application and has produced effective results in a great many cases. This method has not had the support of a large number of otologists, and is not given credit for producing results equal to those of operative surgery, in modern text-books on diseases of the ear. It seems to be given much greater credit as a therapeutic measure in Europe than in America.

"In 1907 M. Yearsley reported the use of pneumo-massage in one hundred and fifty-two ears; thirty were cases of otosclerosis, one hundred and seventeen of chronic middle-ear catarrh, and five were the sequelæ of middle-ear suppuration. In one case of otosclerosis the hearing was improved for whispered tones from twenty-four to eighty-five inches, and this was maintained for at least three months. Eighty-six of the one hundred and seventeen cases of chronic middle-ear catarrh suffered from tinnitus. There was a permanent improvement in the hearing in fifty ears, diminished tinnitus in forty out of eighty-six, and in twenty the tinnitus was completely relieved. In all these cases massage was used as an adjunct to inflation and intra-tympanic injections. In several cases, however, it was not started until inflation and other methods had been given a trial. In fourteen cases marked improvement commenced only when pneumo-massage was given, although inflation had been given a fair trial."

It is M. Yearsley's opinion that pneumo-massage is of the most value in that stage of chronic middle-ear catarrh when the ossicular chain is first becoming restricted in its movements. He regards Paracosis Willissii as an indication for treatment rather than a bad symptom.

Phillips in his "Diseases of the Ear, Nose and Throat" says: "Pneumo-massage of the middle ear sometimes produces a transitory sedative effect upon the subjective ear noises of severe chronic catarrhal otitis. Deafness is occasionally favorably influenced by this form of treatment due to diminution of the pressure sensations in the ear, and sometimes also from vertigo." He says further that, "mixed catarrhal and labyrinthine deafness is not usually benefited by pneumo-massage, except when employed for the prevention of adhesions, and that it is also contra-indicated when the drum-membrane is atrophic,

even though the ossicles are bound down and immovable on account of fibrous deposits."

Politzer says that "pneumo-massage not only produces in many cases a decided improvement in the hearing, but a temporary or permanent diminution of the subjective noises. It has exercised a decidedly beneficial effect upon the head symptoms, such as heaviness, fullness, deafness, etc., which are not infrequently entirely cured by this method of treatment. Pneumo-massage is contra-indicated in inflammatory affections of the middle ear and in primary uncomplicated diseases of the sound-perceiving apparatus." He says in regard to otosclerosis that "most forms of treatment are ineffectual and in some cases detrimental; pneumo-massage brings about a more striking improvement in the hearing than inflation per tubum."

Ballenger, in his third edition of "Diseases of the Throat, Nose and Ear," says that "pneumo-massage has been for deafness and tinnitus of catarrhal origin very greatly exaggerated." He says, however, "it has a place in aural practice, as the mucous membrane is brought into a more active and resistant state and the labyrinth is stimulated to greater functional activity, in a limited number of cases the ossicles are rendered more mobile and transmit sound better after its application. Tinnitus is also occasionally relieved by it."

Barnhill in his "Modern Otology, 1907," says, "The topic may be dismissed with the statement that many patients will not be at all affected by pneumo-massage; only a few are improved by its most careful employment and all may be made worse by its indiscriminate and unscientific use."

Dench in his "Diseases of the Ear, 1909," says, "Any apparatus for pneumo-massage cannot improve a patient but must, in many instances, cause an aggravation."

Such opinions as these latter ones lead the medical profession to believe that little or nothing can be done to improve middle-ear catarrh, and this pessimism in the profession is largely responsible for the feeling among the laity that little can be expected in improving this distressing condition.

Last year I had a peculiar experience in having a brother physician call me up and say that a Hungarian who had had chronic suppuration since his early childhood, had been told in Europe that his only hope of improvement was in pneumo-massage. This form of treatment in his case proved very beneficial.

While this treatment is commended by many otologists, none of them seem to give any definite statement of how it is to be employed, for what length of time, or any other useful details for using it effectively.

Another cause for a discouraging prognosis is the fact that many patients after a course of treatment seem to feel that they will be forever immune from deafness. It has been my practice to warn these patients that they should not delay in case they had an attack of rhinitis which affects the ears, but to have perhaps a few treatments every winter or spring so that any downward tendency in the function may be checked. If this is done, I believe that it is possible to keep the hearing, in many of these cases, for a great many years at the maximum point to which it has been brought by treatment.

Dr. Howard P. Bellows before the O. O. & L. Society some years ago, just as I had begun to feel the necessity for teaching my patients the necessity for such a course, stated that he had been practicing this method successfully for many years and that it had enabled him to keep the hearing of a number of his patients at a high standard of efficiency for over twenty years.

The late Dr. Henry C. Houghton was one of the pioneers in this form of treatment, and made a strong point for its use among the graduates of the College of the New York Ophthalmic Hospital. He contended that "massage gives mobility to rigid articulations, freedom to capsular or intercapsular ligaments, restores wasted muscles, increases the circulation and checks destructive metamorphosis, aids nutrition and lastly, but most vital of all, it energizes the nerve at the center and terminal."

As I have watched the successful cases, I have come to believe that the explanation for success in pneumo-massage lies in Dr. Bier's theory of relieving the inflammatory conditions by means of hyperæmia. An increase in the arterial circulation in the middle ear will probably stop the retrograde changes and increase nutrition and functioning power seldom secured otherwise even if mobility of the bones and membrana tympani is not increased.

Pneumo-massage is the outgrowth of Dr. Houghton's attempt to utilize musical tones. He tried to simulate the key of the tinnitus of the patient if that were present. This was not very successfully applied and accomplished little. Various forms of apparatus have been tried from the pipe organ up through the faradic coil. Gradually Siegel's otoscope came into use, the mouth being used in this method of producing vibration in the middle ear. Afterwards the electric motor came into use, to which various forms of air pumps have been attached. I have not used the pumps having an attachment for using heated air or those having a change of stroke. I have used a three-way pump giving suction, pressure and alternate suction

and pressure. The one used in recent years has been a Wappler with an excursion of two centimeters for its piston. The speed of this pump can be varied, but there is no method of increasing or decreasing the length of the piston stroke. I have not found it necessary in many instances to decrease the force of the piston in the cylinder, but have relied upon the tightness with which I held the tips in the ear for regulating the force of the massage.

Siegel's otoscope has usually been employed for producing wide excursions of the membrana tympani where the latter is more or less stiff and thick. An oily spray has been applied to the nose, benzoinol with menthol or eucalyptol being often employed unless the mucous membrane is too dry. Inflation is then used by the Politzer method except in cases of one-sided deafness or where one tube was less permeable than the other. Pneumo-massage follows, beginning with pressure for a minute or a minute and a half, followed by alternating pressure and suction, and lastly by more or less continuous suction. This treatment is given through the external auditory canal by means of a stethoscope with small olive-shaped points, which can be fitted by means of rubber tubing almost air tight in the canals. I personally apply the treatment, not doing as I did at first, permit the patient to hold the tips in the ears. By holding the arms of the stethoscope myself I can give sufficient force to get enough vibration and stimulation for the best results. This gentle massage from three to six minutes gives a feeling of clearness and warmth in the ears, and a clearer feeling in the head. There will be hyperæmia along the borders of the membrana tympanum and manubrium. To produce this it will be necessary for the hands holding the stethoscope to feel the vibration which is being passed through the canal into the middle ear. Congestion of the attic may also be produced in some cases. By this method in a great majority of the cases the hearing distance for the voice will be increased out of all proportion to that for the acoumeter or the watch. My success has been much greater in improving hearing than in relieving tinnitus.

After the history of the case has been recorded, the hearing is tested for the voice or the forced whisper if the function is not impaired so that the whispered tones are not heard. Numbers from 21 to 99 inclusive are ordinarily used for testing the power for hearing whispered or vocal tones. No consonants or sentences are ordinarily employed. The patients are usually tested to find out their ability to hear Politzer's acoumeter and the watch. The relation of bone to ærial conduction is tested by Hartman's tuning-forks. The cases are tested for

their ability to hear Dench's tuning-fork. The high tone limits are determined with the Gelton whistle.

Dr. George W. Mackenzie says that he has found sometimes that a negative Rinné of twenty seconds may change to one of five seconds after treatment. He thinks this is a good sign. In his hands acute cases have been more helped than the chronic.

Objections to the author claiming for this treatment improvement that might come from inflation or local treatment of the mucous membrane of the nose and throat have been made, but it seems to the writer that any one who has tried the method on a number of cases can judge how much he would be likely to get from this treatment alone. He firmly believes that pneumo-massage has greatly improved his success in the treatment of acute and chronic catarrhal inflammation of the middle ear, and does not know what method could be substituted that would begin to bring the happy results that this does.

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## THE USE OF DRUGS IN CARDIAC DISEASE\*

By JOHN PRENTICE RAND, M.D., Worcester, Mass.

The subject of cardiac therapeutics is one of great importance to the general practitioner, for almost every patient, physically speaking, has a heart hid somewhere in his anatomy which may at some time be subject to functional disturbance or organic disease. I say organic disease, but probably organic change would be a truer definition. Many hearts are crippled as the result of inflammatory action which was primarily induced by some form of bacterial infection and we speak of that heart as being organically diseased when, the truth is, it is not diseased any more than the cicatrix of an old sore or the stump of an amputated leg. Its valves may all leak; its muscular fiber be hypertrophied or wasted away; it is changed, it is crippled, worn out, and the condition we have to contend with goes under the name of "disease." But what's in a name? Any term that conveys one's meaning correctly is all right and really it makes no difference whether we speak of a patient's heart as crippled or diseased; if it doesn't work right it is a proper subject for medical investigation and treatment. . . . The science of bacteriology has revolutionized all of our old ideas of pathology. Thirty-five years ago almost every inflammatory disease that flesh is heir to was laid to "catching cold."

I am not criticising these etiological theories of a few

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\* Abstract of paper read at the A.I.H., Chicago, 1915.

short years ago; they are just as true today as they were then. There may be many conditions where a sudden exposure to a change of temperature will lower our vital resistance,—or opsonic index, of which we once knew nothing,—and render us an easy prey to disease. It may be that the pathological theories of today will be supplanted in the near future by others entirely different, but the clinical manifestations of disease, which were recorded with such wonderful accuracy by Hippocrates and Sydenham and which Hahnemann made use of later as the base for a homœopathic prescription, are yesterday, today and forever the same, and the remedies which Hahnemann found of actual service in the treatment of various pathological conditions are just as serviceable now as they were then. The germ theory has furnished us with an invaluable, I might almost say an infallible guide to prophylaxis and the prevention of disease, but it has not displaced our old time-tried homœopathic remedies in the least. While the pendulum of medical opinion in the dominant school swings from the drastic dosing of the past to the saner method of a purely expectant treatment, we go on the even tenor of our way believing still that, in the majority of our cases, the law of similars properly applied will yield the best results. . . . [Then follows a brief *resume* of a score of the most important remedies for cardiac troubles and the indications for their use, closing with an earnest appeal for psychic treatment in cases of this kind.]

Lastly, though its mention may seem irrelevant to my subject, we must not forget the tremendous potency of hypnotic suggestion, for good or ill in all of these cases. There is no organ in the whole economy more sensitive than the heart. The newly developed term, "arterio-sclerosis" has brought terror to many elderly people who were going happily down the decline. To be told they had high blood pressure with hardening of the arteries which were likely to rupture at any moment has made many people miserable who had no fear of death before.

But what are we going to do about it? I will tell you what I do: A patient says to me "I have hardening of the arteries, what does that mean?" I reply: "It means you are growing old. You have hardening of the bones as well. None of your tissues are as elastic as they used to be. They are all growing old together and hardened arteries and brittle bones are the common inheritance of age. Hardening of the arteries does not spell imminent and certain dissolution any more than hardening of the bones an imminent and certain fracture of the hip. Go slow! Don't worry! Eat sparingly! The very malady you are afraid of may prolong your life!"

I believe that the physician who does not make use of the psychic element in treating cardiac diseases is making a great mistake. "There are more things in heaven and earth than are dreamt of" in our materia medica and "A word fitly spoken how good it is!"

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## OBITUARY

### MEMORIAL SERVICE FOR DR. EDWARD P. COLBY

On Thursday noon, November 4, there was held in the lecture-room of the Evans Memorial Building, a Faculty memorial service for Dr. Edward P. Colby, Professor of Nervous Diseases of Boston University School of Medicine since 1890, whose death occurred on November 1, and whose connection with the teaching force of the School dated back to its first year, 1873.

The service was very generally attended and was presided over by Dean John P. Sutherland. After a fitting tribute to Dr. Colby and his work in the School, Dr. Sutherland called first on Dr. John L. Coffin, Professor of Dermatology, who began the study of medicine with Dr. Colby as his preceptor.

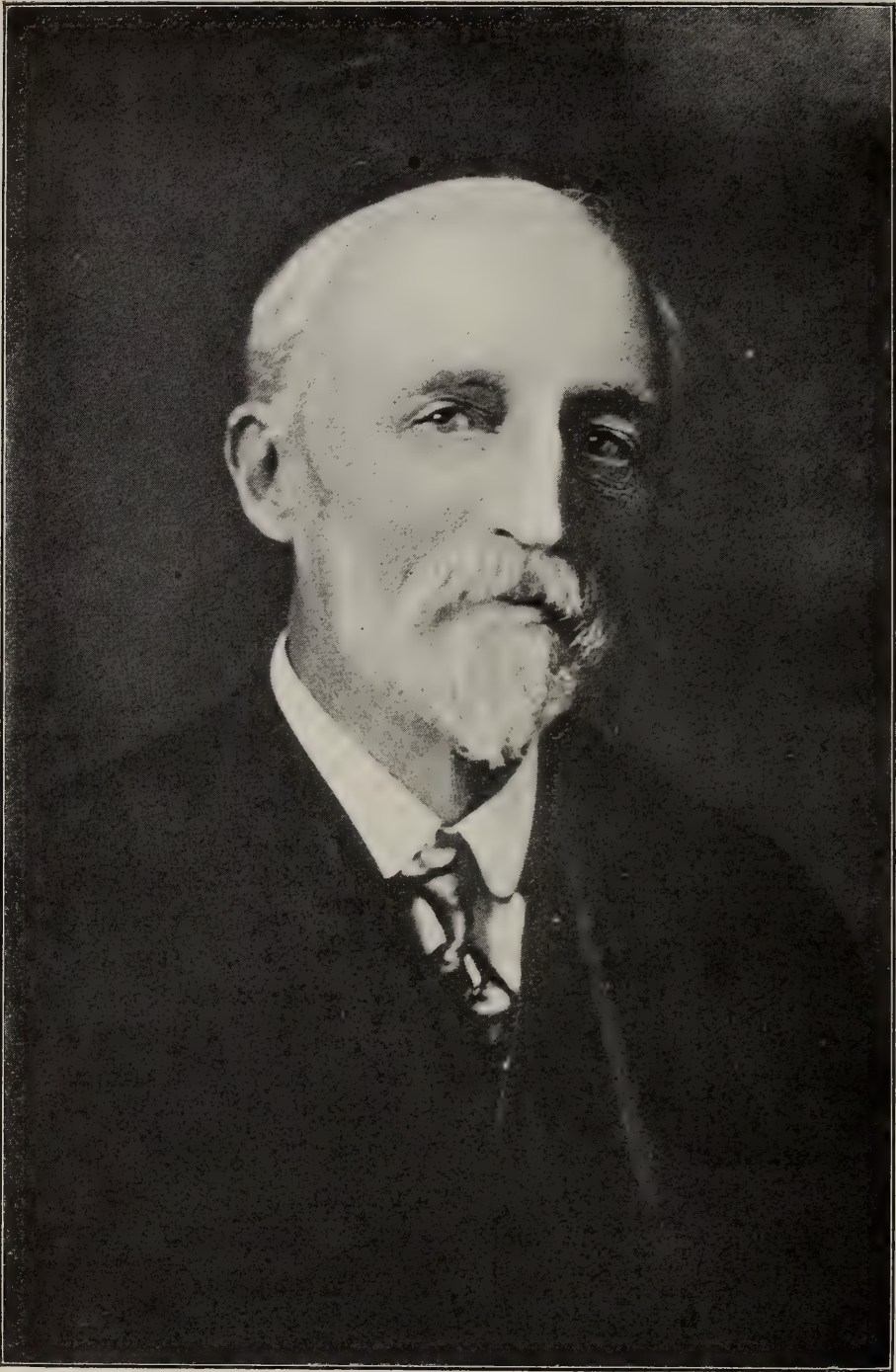
Dr. Coffin spoke feelingly of Dr. Colby's admirable qualities as a man and as a physician. He referred to him as "wise and kindly, courageous under trial, witty but without malice, humorous, loyal to family and friends, loyal to country and religion, and loyal to Homœopathy."

Dr. Frank C. Richardson, Professor of Clinical Neurology, and a close personal friend, was the next to pay his tribute. He spoke of Dr. Colby as "simple and unassuming, gentle and kind, brave hearted and liberal, bearing trial with fortitude and patience, leaving men better and happier for having known him."

Dr. Herbert C. Clapp, Emeritus Professor of Diseases of the Chest, was the next speaker, followed by Dr. Frederick B. Percy, Emeritus Professor of Clinical Medicine, who laid emphasis on Dr. Colby's "well rounded life," dwelling on his "thoroughness, friendliness to his colleagues and pride in their success." Dr. Percy spoke especially of Dr. Colby's qualities of broadmindedness, diligence, kindness and charity.

Dr. Charles L. Nichols of Worcester was the next speaker, and he brought out three prominent qualities of Dr. Colby's, — loyalty, dependableness and steadfastness.

Dr. Solomon C. Fuller, Pathologist of Westborough State Hospital, spoke of Dr. Colby as "a genial, courtly, kindly gentleman" and reminded his hearers that every one of the



EDWARD P. COLBY, M.D.

(Died November 1, 1915)

more than one thousand graduates of the Medical School have all been under Dr. Colby's instruction, also that for more than twenty years Dr. Colby had served on the Consulting Board of Westborough Hospital.

Next to speak was Dr. George B. Rice, Professor of Diseases of the Nose and Throat. His tribute was to Dr. Colby's

"profound knowledge, broad humanity, eternal youth which never failed, his broad sympathy, and the smile which was always a benediction."

Dr. Howard P. Bellows, Professor of Otology, spoke from forty-one years of acquaintance and brought out Dr. Colby's "versatility and the kindly interest which he took in his medical students, assuring himself that the points which he thought were important were made clear to their minds."

Dr. Bellows offered the following resolution, which was unanimously passed:—

"We have met to mourn the loss, to ourselves and to our profession, of our faithful friend and honored colleague, Dr. Edward P. Colby, and to speak of him loving words of tribute to his kindly and genial qualities, his integrity and sincerity of purpose, his skill and ready helpfulness in council to all his associates in the profession which he loved and adorned, therefore

"Be it Resolved: That we hereby express our sorrow and our feeling of personal loss, and that we extend to the family of Dr. Colby our heartfelt sympathy in their bereavement."

#### Tribute to Dr. Edward P. Colby

Strong, aquiline and keen his clear cut face,  
Which age has blanched, and framed in whiter hair.  
Bowed his frail form, but no power can impair  
His smile's swift beauty, nor his will debase  
To idleness, nor can old age efface  
His kindly insight. Let those souls beware  
Who plan deceit; still like a trumpet's blare  
Rings his great voice to spur a laggard pace.  
Thoughtful, wise, patient, with creative mind  
Eager to penetrate remotest cause, —  
To him sick soul and body come to find  
Strength, healing, pithy counsel, wise, sane laws.  
Among the last of a grand soldier-roll  
He still endures, still labors, strong of soul.

*Katharine French.*

(Written in 1909 but not before published.)

#### Dr. George H. Wilkins

Dr. George H. Wilkins of Newtonville, Mass., died at the Woodside Cottage Sanitarium, Framingham, Mass., on November 17th, after a prolonged illness. Funeral services were held at Newtonville on November 20th, and the remains were taken to Amherst, N. H., for burial in the family lot.

Dr. Wilkins was the son of Aaron S. and Martha A. (McClure) Wilkins and was born at Amherst, N. H., Dec. 28, 1855. His early education was obtained in the schools of his native town and the New Hampshire State College, from which he received his B.S. degree in 1879. In 1880 he entered the New York Homœopathic Medical College and was graduated in 1883. He at once located at Palmer, Mass., where he remained for nineteen years. During this time he was closely identified with all that pertained to the welfare of the place; he was especially interested in the Congregational Church and the Thomas Lodge, A.F. and A.M., of which he became Master; he also served as Deputy Medical Examiner of the Eastern Hampden District for a period of years. In 1902 he moved to Newtonville, where he remained in active practice for ten years, when he was obliged to give up on account of ill health.

Dr. Wilkins was always thoroughly interested in our homœopathic institutions and ready at all times to do his part in giving them support. At the very commencement of his practice he joined the Homœopathic Medical Societies of Worcester County and Western Massachusetts, both of which he served as president. In 1891 he joined the Massachusetts Homœopathic Medical Society and in 1908 he became one of its vice-presidents; in 1886 he joined the American Institute of Homœopathy and in 1900 the Massachusetts Surgical and Gynecological Society; in 1903 the Boston Homœopathic Medical Society, and he retained an active membership in all of these until the time of his death.

For a few years previous to his retirement from practice he had lectured upon Theory and Practice to the upper classes of Boston University School of Medicine.

He is survived by one sister, two brothers and his devoted wife, Sadie S. Stanwood, to whom he was married in 1889, to all of whom we extend our most heartfelt sympathy.

It was my privilege to know Dr. Wilkins intimately as classmate, neighbor, counselor and friend, and I can truly say that he was one of God's noblemen.

J. P. Rand.

Dr. Charles A. Church, one of the best known homœopathic physicians in New Jersey, died in November at his home in Passaic, in the 76th year of his age. Dr. Church had been president of several of the homœopathic medical societies and had been in practice in Passaic for forty-one years. He was a graduate of Hahnemann Medical College of Philadelphia and also of the New York Homœopathic Medical College. His son, Dr. C. Herbert Church, is in practice in Newark, New Jersey.

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## REVIEWS

## DIAGNOSIS

## THE TRANSMISSION AND ADMINISTRATIVE CONTROL OF MEASLES

*H. F. Gray, Jour. Infect. Diseases, November, 1915, Vol. 17, No. 3.*

An interesting study of a mild epidemic of measles, comprising 254 cases at Palo Alto, California. The writer concludes from this study and from previous experimental work that the disease may be infective as early as five days prior to the appearance of the exanthem. Probably the disease is not infective five days after the appearance of the rash which marks the height of infectiveness. The early recognition of cases is most important, and school teachers should be taught to recognize the prodromal symptoms.

D. L. B.

## REPORT OF AN INVESTIGATION OF DIPHTHERIA CARRIERS

*Joseph Goldberger, C. L. Williams, and F. W. Hachtel, Hygienic Laboratory Bulletin, No. 101, August, 1915.*

An investigation as to the prevalence of diphtheria carriers in a normal population was made in Detroit, Mich., in 1913 and 1914, shortly after a period of increased prevalence of this disease. Cultures were indiscriminately taken from all classes of well persons, for the most part in a house to house canvass. However, the greater portion of the 4093 examinations were made on women and children. Of this number only 38 persons (0.928%) were found to harbor B. diphtheria (morphologically); and only one-tenth of these cultures proved virulent. The results which show approximately 1% of carriers are somewhat lower than previous investigations in Massachusetts, Minnesota, etc., which show an average of over 2%. A striking fact is the low per cent of virulent diphtheria carriers in a normal population.

D. L. B.

## COMPLEMENT FIXATION IN TUBERCULOSIS

*A. M. Stimpson, Hygienic Laboratory Bulletin, No. 101, August, 1915. U. S. Public Health Service.*

An interesting account of the use of the complement fixation test for the diagnosis and prognosis of tuberculosis, including a brief but excellent resume of the work of previous investi-

gators. The conflicting results of previous workers are explained as largely due to the use of various antigens, and a comparison of the different types of antigens is made. His use of a colorimeter in expressing the results seems a decided improvement over the present routine method. Calmette peptone antigen, and Besredka's egg medium antigen proved most satisfactory. Depending upon the antigen and the technique the proportion of positive cases in which complement fixation could be demonstrated varied below a maximum of 95%. In patients clinically cured repeated negative reactions are confirmatory, while as long as positive results are obtained latent activity should be suspected. Only in the terminal stages does a negative reaction have a sinister import, and here may be regarded as part of a loss of reactivity. Positive reactions are not indicative of immunity, and the reaction should not be described as an immune reaction.

D. L. B.

PRACTICAL MATERIA MEDICA AND PRESCRIPTION WRITING,  
WITH ILLUSTRATIONS

*Bethea, Oscar W., Assist. Prof. of Materia Medica, Tulane University of Louisiana. F. A. Davis Co., Phil., 1915.*

This work comprises a list of the official and unofficial drugs with a brief description of their properties, physical, chemical, and their therapeutic uses and dosage. The contents of the first half of the volume is practically the same as that found in greater detail in the U. S. Pharmacopœa. The section on prescription writing is most complete and constitutes the real value of the work. For those who continue to prescribe compound prescriptions the work will serve as a ready reference book, and will enlighten the reader on many points in prescription writing. The work as a whole is more adapted to the medicine of a quarter of a century ago, as the modern pharmacotherapist will find all he requires in this line in a good pharmacology.

C. W.

SURGERY

GASTROENTEROSTOMY: A STUDY OF 100 CASES AS COMPARED WITH  
A SIMILAR NUMBER OF CASES OF PYLOROPLASTY

*Finney, J. M. T., and Friedenwald, J., Am. Jour. Med. Sciences, Vol. CL, No. 4, No. 523. October, 1915, p. 469-479.*

The authors draw the following conclusions:—"It is quite evident from our study of 100 gastroenterostomy operations and from a similar number of pyloroplasties that the

immediate as well as the final results are clearly in favor of pyloroplasty. The only indications in favor of gastroenterostomy are, as we have already pointed out, in those instances in which there is an inability to mobilize the duodenum when adhesions are too dense, and in those cases in which there is a thickening and infiltration about the pylorus due to hypertrophic ulceration, conditions, however, which in our experience occur but rarely. Again there is no possibility of excising the ulcers when performing gastroenterostomy, as can frequently be accomplished in pyloroplasty, when they are in the anterior wall.

"While in some instances gastroenterostomy may be the operation of choice, nevertheless we believe that on account of its comparative unsatisfactory end results, it should be as far as possible limited to the relief of stenosis of the pylorus, due to malignant disease, and that usually in nearly all other conditions pyloroplasty and pylorotomy are safer and more satisfactory procedures."

C. W.

## PATHOLOGY

### VARIATION IN THE PLATELET COUNT

*Duke, W. W., Jour. of Am. Med. Ass'n., Nov. 6, 1915, Vol. LXV, p. 1600.*

Generally, the number of blood platelets is increased in chronic and diminished in acute diseases. Duke injected rabbits with diphtheria toxin, benzol, tetanus toxin, killed typhoid bacilli, and tuberculin, and used the Roentgen ray. He found that these agents (except tetanus toxin) in large doses caused a diminution in the number of platelets, and in small doses a rise. This is due to the stimulating action of small doses of a substance that in larger doses acts as a poison.

The hæmatopoietic tissue (bone marrow) is stimulated by the smaller doses to increased activity and consequent increase of platelet output; whereas larger amounts poison this tissue, and the platelets become less numerous. Similarly, acute diseases (diphtheria), elaborating a large quantity of toxin suddenly, overwhelm the bone marrow, and the low platelet count results; in chronic conditions (tuberculosis, nephritis), on the other hand, the small amounts of toxin formed per unit of time causes an increased count by its stimulating effect.

*(These findings are in accordance with Arndt's "Law," and are of evident interest to the student of homœopathic drug application.)*

H. U.

A CONTRIBUTION TO THE PATHOGENY OF ARTHRITIS IN  
RHEUMATIC FEVER

*Faber, H. K., Jour. of Exp. Med., Nov. 1915, Vol. XXLL, p. 615.*

Faber's experiments with intravenous and intramuscular injections of streptococci in rabbits seem to show that rheumatic arthritis and, especially, relapses are due to a sensitization of the involved joint by previous infection with the same or a similar micro-organism. Very virulent streptococci may cause arthritis without such preliminary sensitization.

Relapses seem to be due (and the same thought is suggested for rheumatic endocarditis) to a deposition of organisms in a joint sensitized by a previous infection. The sensitizing infection does not give rise to gross lesions and, therefore, not to a clinically recognizable arthritis.

The controversy as to whether or not the streptococcus is always the cause of rheumatic arthritis, is not and, probably, was not expected to be solved. Concerning this the author writes as follows:

"In view of the fact that . . . several different organisms can cause arthritis in man, and that the clinical manifestations of rheumatic fever vary widely it may well be that no one organism is constantly at fault. Nevertheless the streptococcus . . . has been the one most often found. . . . Further, this organism shows greater and more constant arthrotropic properties than any other known. The preponderance of the evidence now available, therefore, is with the streptococcus."

H. U.

## PHARMACOLOGY

## CHRONIC LEAD-POISONING IN GUINEA-PIGS

*Ophuels, W., Am. Jour. Med. Sciences, Vol. CL, No. 4, No. 523. October, 1915, p. 518-540.*

The experiments were made on 28 guinea-pigs which were given  $\frac{1}{2}$  grain of carbonate of lead three times a week in their food. The only symptoms recorded are obesity, convulsions, anorexia and the typical blood picture of lead poisoning, namely stippled cells and nucleated erythrocytes with a preponderance of megatoblasts. Thirteen animals lived one year or more and eight lived two years or more.

While in man the kidneys in chronic lead poisoning give a picture indistinguishable from other forms of arteriosclerotic nephritis, guinea-pigs in these experiments showed a condition similar to that found in these animals in uranium nephritis. In man, it is very common to find calcareous deposits, con-

taining urates also in the pyramids of the kidneys, thus giving a pathology almost identical with gout; but although these have been found by other authors in guinea-pigs they were not found to be present by this author. The kidneys showed primarily epithelial lesions, which condition was sometimes associated with a type of granular atrophy together with a limited amount of fibrous thickening of the connective-tissue between the tubules and in the capsules of the glomeruli in these areas. The heart so far as its weight was concerned, and the aorta were found to be entirely normal.

Mallory has suggested that as lead salts produce in warm blooded animals a hyaline lesion in the liver cells similar in all respects to that found in alcoholic cirrhosis in man, the so-called alcoholic cirrhosis in man may possibly be due to lead. Ophuels found in the liver of his guinea-pigs large areas of collapse giving a marked irregularity of the surface resembling that observed in human cirrhosis, but the connective-tissue proliferation associated with this process was extremely limited. The condition, therefore, cannot well be classified as a cirrhosis, but should be designated as a chronic focal atrophy.

"Chronic lead-poisoning in guinea-pigs produces general increased permeability of the blood vessels leading to the production of effusions, usually of a hemorrhagic character, into the serous cavities. These are most commonly observed in the pericardium, but the pleurae and the peritoneum are often also involved in the process. False membranes are apt to form on the surface of the serous membranes, and their organization leads to the development of the picture of a chronic polyserositis with fibrous thickening and sometimes adhesions. If this condition is more especially localized in the pericardium there may be the appearances of a pericarditic pseudocirrhosis; if more in the capsule of the liver, that of a 'Zuckergussleber' may be reproduced."

C. W.

#### A CASE OF STRAMONIUM POISONING

*Mc Nally, W. D., Jour. A. M. A., Vol. LXV, No. 19, Nov. 6, 1915, p. 1640.*

The author cites a fatal case of poisoning from the seeds of the *Datura stramonium* (Jamestown weed, "jimson weed" or "thorn apple") in a healthy boy, aged 7. The seeds were eaten at 5 o'clock in the evening, and at 6 o'clock the boy ate his supper, retiring at 8 o'clock feeling as well as usual. At midnight he called to his mother, complaining of being alternately cold and feverish. Half an hour later he was delirious,

tossed about in the bed, wanted to go barefoot, and pulled at his nightgown. After about one hour of restlessness the boy went to sleep breathing very heavily. At 6 A.M. the mother found the boy resting comfortably. Fifteen minutes later she found him dead with his face sunk in the pillow (14 hours after the ingestion of the seeds). No convulsions were observed, nor did the child vomit or have diarrhœa. Autopsy showed no evidence of any skin eruption. The pupils were not dilated to any marked degree. The lungs were "slightly distended, and there were a few scattered subpleural petechæ over both lung surfaces." Hypostatic congestion in the posterior portions was present. "Scattered over the epicardium of all portions of the heart were numerous (several hundred) small petechiæ. These were for the most part discrete, and none measured over 0.1 cm. in their greatest dimension. The liver was negative except for an acute slight passive hyperæmia and a parenchymatous degeneration." About 100 seeds were found scattered through the entire small intestine. Four cases of death from stramonium are cited from the literature with references. The seeds of *Datura stramonium* contain atropin and hyocyamin.

[Stramonium leaves, like those of *hyocyamus niger*, contain mostly hyocyamine, with a fair amount of hyocine, and only traces of atropine; while *Belladonna* (leaves and root) contains almost entirely atropine with only traces of hyocyamine and hyocine. It is thus natural that the delirium of stramonium should be comparatively calm owing to the depressant action of hyocyamine, while that of *Belladonna* should be wild and even furious owing to the cerebral excitement induced by atropine. I am unable to find the proportions of the alkaloids in the stramonium seeds. Ed.]

C. W.

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### BOOK REVIEWS

**Fractures and Dislocations, Diagnosis and Treatment.** By Miller E. Preston, A.B., M.D., First Lieut. M. R. C. U. S. A.; Surgical Examiner, Colorado State Board of Medical Examiners; formerly Police Surgeon, City and County of Denver; Instructor in Anatomy, University of Denver; Visiting Gynecologist to City and County Hospital, Denver, Colorado. With a chapter on Rontgenology by H. G. Stover, M.D., Professor of Rontgenology, School of Medicine, University of Colorado; Member of American Roentgen Ray Society; Visiting Rontgenologist to City and County Hospital, St. Joseph's Hospital and Children's

Hospital, Denver, Colorado. Octavo volume of 813 pages, with 860 original illustrations. C. V. Mosby Co., St. Louis, 1915. Cloth, \$6.50 net.

The publication of this volume marks a new departure in the field of fracture literature. The illustrations are original, and many of them show the condition immediately after the injury; the X-ray plates are good and show the lesions clearly. A notable feature is the chapter on Fracture of the Skull, in which is given the differential diagnosis of the different causes of coma with which fracture of the skull may be confused. Dislocation and fracture of the semi-lunar cartilages of the knee is treated in a clear and concise manner. Bone transplantation according to the method of Albee is covered by a chapter of 22 pages which lays down the laws governing this important and new branch of bone surgery. The book needs to be seen to be appreciated, and close contact with it will soon show its value.

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### CORRESPONDENCE

#### Letter from Dr. Nesbit

Bryn Mawr, Penn.,  
September 21, 1915.

Dear Mr. Editor:—

I greatly appreciate the spirit of your letter of the 13th, and your interest in my behalf with Dr. Ward. I should consider it a great privilege to have an opportunity to organize and direct a department for research and teaching Pharmacodynamics and homœopathic Therapeutics experimentally at the University of California.

At the University of Ohio this kind of work appears to be well organized and under way. Burrett tells me that their budget for this year has been apportioned already. Tactically, I do not feel that we need spend any more "new blood" at the Columbus institution now. Burrett and Hinsdale are at work.

At Chicago there is a position of greatest potential value to Homœopathy, I believe. The "regular" colleges are beginning to loom large among American institutions, and are outbidding some of the Eastern schools for their best research workers. Likewise, the St. Louis institution. The Chicago homœopaths are making some ambitious plans. Do they plan to include systematic and thoroughgoing experimental work in Pharmacodynamics and Therapeutics? The inevitable tendency is to consolidation and condensation of effort and expense. Unless the Chicago homœopathic institutions can be made to *stand out* boldly by doing *distinctive* work in the special field of experimental Pharmacodynamics, and thus making a *special* appeal to medical students, I do not see how we can reasonably expect it to hold its own in competition with the University of Chicago and Northwestern University. After the institute meeting I had an interview with Dr. Cobb, and with the Faculty of the College, at his request. I was left to expect a definite proposition from them by the middle of August, but have had nothing further as yet. There are some personal reasons why I should prefer to work at Chicago. But living expenses are so high that I could not move without a substantial assurance for the first few years.

I am less sanguine about our older and better established institutions taking up this work seriously. My experience at the Hahnemann of Philadelphia leads me to feel that they have become either hopelessly involved in petty politics and personal jealousies; or, chronically mildewed in their methods of teaching Materia Medica and Therapeutics. With their curricula shaped and controlled by men of the didactic, praise-the-past type and

others over-sensitized to the blandishments or "scares" of the great A.M.A., they are more likely to respond to any newest demand of that body for "raising the standard" of general medicine than they are to spend money upon the only department of medical teaching that gives them the shadow of a *raison d'être* in this generation. The struggle and yearnings of some of these men to be rated as "among those present" in Mr. Carnegie's official Blue Book, are positively pathetic. To attain to a "Class A" standing there these "liberal homœopathists" are spending their honorable patrimonies for all the latest "regular" fixin's to look like and "keep up with Lizzie." As concrete evidences of this, I enclose a report of a case clipped from the Journal of the American Medical Association (not the Journal of the American Institute of Homœopathy) by the Registrar and Professor of Pathology of Hahnemann Medical College of Philadelphia. Others by the same author may be found in the Journal of the A.M.A. for July 1914 and the Journal of Medical Research, Vol. xxii., No. 3. This member of the voting Faculty is not even a member of the American Institute of Homœopathy, is frankly indifferent, if not actually antagonistic to work along homœopathic lines. After drawing a salary from the Hering Fund for two years—as a member of an "advisory" committee—equal to that of the director of the laboratory, he has now become the actual director of this work. It was a committee of which he was the controlling factor that condemned my report of the Hering Laboratory to oblivion, as being of too little interest to the profession to justify publication. I confess to an inability to see the practical advantage of this "Class A" standing for our institutions—at a sacrifice of our own distinctive part—I have yet to learn of a single student sent to one of these "Class A" homœopathic institutions by members of the "regular" profession.

In 1810 Hahnemann took the advanced ground of modern medical instruction when he insisted upon the scientific principle of "a reasoning from analogy" based upon a method of "pure experiment" alone. He thereby established a "Class A" distinctively homœopathic. At that time the method of "regular" medicine was empiricism based upon speculation and authoritative tradition. By a strange irony of Fate the *methods* of teaching drug action in homœopathic and non-homœopathic colleges have become practically reversed. Non-homœopathic departments of Materia Medica and Therapeutics have adopted the experimental (laboratory) procedure. They are *showing* students what drugs do in health and in disease. While homœopathic colleges (with rare exceptions) are still content to *tell* them long lists of disconnected, and ill-assorted symptomatic minutiae from didactic lecture platforms.

While a certain amount of didactic teaching must still be done, the work of fundamental significance must be "experimental" upon provers and "at the bed-side." Apart from the inapplicable arrangement of our older pathogeneses, the old-fashioned processes whereby these experimental data were grown and gathered and milled alone make much of this mass of wheat, chaff and raw grit an insult to the intelligence of men trained in Medicine by modern methods of precision.

Strangely enough some of these older "homœopathic" medical colleges are spending from their too slender resources considerable amounts yearly for "research" in every department under the canopy *but* Pharmacodynamics and (homœopathic) Therapeutics. Is it surprising that scientific men of the dominant school question the shallow pretensions and sincerity of these "homœopathic" institutions? In the natural course of events, if these "liberal homœopathists" can hold on to "Lizzie's" tail long enough, they will be dragged back to serious investigation in their own particular field—human provings. It has been suggested that "a tail hold is as good as any—if it does not slip." But, economic considerations alone are likely to force them to loose their grip upon the tail of this "regular" donkey. But, even if their hold doesn't slip, the donkey will beat them to this most fertile field. He has worked patiently enough among the stumps and the thistles; and, is now casting envious, side-long glances over the fence into our promised land.

Now this letter of mine has a more serious purpose. We have the sound

principle in modern drug therapeutics, but have by no means developed its full possibilities. We have the institutions, equipment and men to develop it. We have money to spend on research—in other directions. Can we not bring home to these institutions the critical necessity to develop the only lines in which we are distinctive and have an economic right to be? Dr. Wood and his committee, of which you were a member I believe, have just achieved a notable success in bringing the claims of "homœopathic" surgery to the respectful consideration of American scientific surgeons. The signal honor and appreciation shown Dr. Wood by his confreres at Chicago will always be a pleasant recollection to him. Will not you or Dr. Wood or some other man of commanding position in the profession now undertake to organize a movement to re-awaken the homœopathic colleges to a working interest in the fundamentals of Homœopathy of which experimental Drug Proving on human subjects is of first importance and most far-reaching significance? The end to be sought by such a committee should be (1) the initiation and establishment of an experimental department in pharmacodynamics and therapeutics in every homœopathic medical college; (2) co-ordinated studies conducted under the auspices of the A.I.H. in each of these several colleges; (3) the adoption of a standard working-technic for drug-proving, and an authorized nomenclature for drug pathogenesis.

When such work has been initiated—as a "Class A" requirement of the A.I.H. for all homœopathic colleges—the adoption of a standard technic and nomenclature might be best accomplished by yearly "grants" from the A.I.H. to those colleges producing a series of provings at the annual meeting in conformity with the A.I.H. requirements. One pathogenesis, like Hinsdale's Kali Bichromicum at Chicago this year, will do more to propagandize Homœopathy to the profession and undergraduate body of the profession than many times its cost "for organization and publicity." Such "results" will make an homœopathic propagandist of every student taking part in them, and of every practitioner who profits by their addition to his working equipment. What the homœopathic profession needs today, in my opinion, is "results"—not eloquence. Can we not have more *pathogenesis* and less *politics* in our Homœopathic colleges? If the younger practitioners can not get this raw material from which professional success is made from our own institutions we will have to turn to other sources for it. We must have "the goods." We will patronize the factories that produce it.

Will you not take hold of this? You have the breadth of vision, the administrative ability, the prestige, the publication and the pointed pen to organize such a movement. Cordially yours,

Edwin Lightner Nesbit.

Dr. De Witt Wilcox, 419 Boylston Street, Boston, Mass.

#### Letters from Dr. E. Petrie Hoyle

The following correspondence in relation to a subscription raised at the last annual meeting of the International Hahnemannian Association for one of the French Hospitals may be of interest to the readers of the *Gazette*.

The letters have been received from Dr. Hoyle at different times through the past summer and give a somewhat vivid description of his work outside of Paris.

Hospital No. 50  
RUBELLES pres MELUN

July 26, 1915.

*My dear Friend and Colleague:*—Many, many thanks for your letter of the 17th received only yesterday. I am caught in bed with a touch of phlebitis following a sprained ankle contracted two weeks ago last Friday. I kept on at work all that time on crutches, but now a marked phlebitis has developed and a Med. Chef. from a neighboring hospital, an awfully nice Frenchman, yesterday ordered me eight days in bed, which is unfortunate as I am the only physician in this hospital.

We have thirty beds which were quite full for some time, but many have recovered so we are going light at present, and I have the cases come

in to show their wounds as required, the authorities promising to keep us light until I get out of bed.

I want to convey to all the boys how very touched I am with their kind donation and promises. The money will be well spent. Just as I came here a doctor from Walla Walla, Washington, sent me 25 francs, 19 francs of which I spent for about four pints of Calendula. I have used this on all sorts of wounds here, pouring it into compound fractures and using it on black wounds, as many men arrived here from the front with their wounds not dressed for four days, hence the torn flesh was in some instances black and offensive.

In some cases of leg and foot wounds I have used tincture of Iodine with Iodide of Potass for the first hurried midnight dressings, but to Calendula alone do I attribute the quick sweetening of all these wounds.

I introduced Calendula in Belgium also, where I got permission from the surgeons to use it on even gangrenous cases. We have learned to put cases of gangrene out of doors, under cover, of course. They are kept warm with hot water bottles, but the gangrenous areas are kept cold and as much exposed to circulating air as possible, covered with gauze soaked with strong Calendula to which I always add a little glycerine as it is more penetrating.

I enclose four views: two of our hospital and grounds and one of a group of half-cured compound fractures with myself and one nurse, female cook and our French housekeeper in the background. The cook was loaned by a neighbor until we get our army cook, who was drawn from the Auxiliary Staff of men who are in some way incapacitated from active service. The fourth view is of men we cured who are being sent on to the nearest Army Convalescent Depot for re-drafting to the front. They go out as cheerful and brave as three-year-old bulls who are "feeling their oats." It is a pleasure working for these wounded.

At Neuilly we only had "malades" and many of these were chronic malingerers who were never satisfied and whose chief aim seemed to be to dodge issues with the doctors, and their tales of pain were generally contradicted by the records of the stethoscope and thermometer. Consequently owing to there being no chance to do really good work I sought other pastures and had three places offered me, choosing this under the direct control of the French Government and am proud to be Med. Chef. with rank of Major.

I am under sensible French military authority at every step. Of course we get no salaries, but who cares when there is so much suffering to be allayed? Somebody must volunteer.

Our hospital is kept up on the grant of two francs per patient per day and the original Government grant of Ten Pounds (\$50) per bed, to which is added the occasional gift of money or vegetables, fish and fruit from local landowners, friends of our president's who is a landowner here, his family name stands in old records of the country. This house belongs to his brother who is now at the front and still alive much to the astonishment of his brother, who has eight or nine cousins all lying dead on the field of honor. There is some uncertainty about the ninth who is classed as "missing," but private advices leave little doubt of his fate, the battle ground (in the Dardanelles) being for the time overrun with the savage Turks who, they say "take no prisoners." Is not this a great loss to one family?

This house is rent free, and as our cook and male assistants and nurses are free workers we have very small expenses. The nurses boil and iron as many bandages as possible to save money. We eat just about what the soldiers eat, which is very slim. The main food is a sort of soup full of vegetables and just enough meat to flavor and one cut piece of meat each for midday meal, though we get an egg occasionally when some neighbor sends us in some as a present. All spare bread is thrown into the soup pot. As there are lots of fragrant herbs in the garden the soup always tastes nice even if it is not very strong.

So you can see that your donation will help out some long-felt wants.

An English lady sent us some proteid food which has helped, us out in some cases. An American lady gave me some money with which I bought wood and metallic wire screen, out of which I manufactured a food safe as the accommodations here were only for a small family and our food was

covered with flies before that. An American depot run by a daughter of the U. S. Consul General at Paris, has given us four bundles of dressings and eight dozen towels and some flannel shirts for men who have only rotten cotton shirts, poor souls! I have many friends at that American Depot at Paris. Thus do we help out the two francs a day.

There is scarcely a man left in this village. The women are doing most of the field work. One has to be in France to learn the terrible devastation. A soldier told me the other day that if he got through this war he would be able to choose a wife from four hundred women. We will overlook the exaggeration, but it points a moral.

Greetings to all my friends. I hope to be up and at work next week. It is very dreary on my back with a sprain and phlebitis.

Au revoir,

Sincerely,

E. Petrie Hoyle.

Hospital No. 50  
RUBELLES pres MELUN

Dr. Frank W. Patch,  
Framingham, Massachusetts.

Aug. 31, 1915.

*Dear Doctor:*—I hasten to acknowledge the receipt of your draft for 1027 35 francs received this morning.

It is nearly midnight and I have been at it since 7.30 this morning, but then we are out here for work and more work. It puts heart into us to receive such a token of respect and faith.

We have always "malades" with us and even nearly every "Blessed" (wounded) gets medical attention. I say that every wound has received some help from our medical care. First and foremost comes symphytum, and who can see suppurations without thinking of silica, hepar, etc.? And for inflammations there are dozens of remedies to be singled out. You may be sure I use our remedies to the best of my ability.

I prepare all medicine here with distilled water as the local water is cruel. It gives me diarrhoea whenever I get desperately thirsty and drink off two or three glasses, as sometimes I must. When not desperate I rely on Vin Ordinaire which we get four casks at a time, as every soldier who is fit to have wine gets it.

At home I don't touch wine once a month, but here one has to take this Vin Ordinaire or have colic and diarrhoea as I now have from too much water. Coffee is the only alternative.

We have just lost a nurse who was taking night duty. She got jumpy and quit us with less than two minutes notice, so I am taking what night duty I can. That is, I stay up until about one o'clock, going around at the hour or oftener, but in three or four days I shall be relieved.

The men here with one exception have been very nice indeed as soon as they get to know us. It is rather startling to be told what they require in treatment, but I have one good argument which has served several times. "Did the other man and method cure you?" the answer being quite too evident.

Now that you have sent me this money I shall try to get a few 30 c. potencies for which I had not the money before. I had a few 200 c. potencies which Dr. Barlee gave me from grafts of Dr. Gibson Miller who got them from Dr. Kent.

I can swear by the Sulphur 200 to aid old pleuritic troubles. I wonder if I told you about the rhus venenata case I had after vaccination? It was a pretty picture which might or might not have been called erysipelas by some; it cleared off in twenty-four hours. The poor woman was working in the harvest fields all day, her husband being at the trenches and she having a number of children to feed, it was pretty well impossible to expect anything but trouble from such a vaccination.

I have to make a full written statement daily of every drug and dressing used. It is all on printed charts to fill in; liquids, diets, dressings, medicaments and observations. I have my own notes besides. This of itself gives me a lot of writing which I can best do at night.

My phlebitis is quite well. I got up after eight days in bed, went on crutches four or five days, gradually giving my leg more and more to do.

It swells at night but is quite firm in the morning, but the tendons and ligaments are quite weak yet if I tread on anything but the dead level. It is tough being the only physician on hand. I went to Paris last Tuesday, it being the first day off the place in eleven weeks.

This war is sickening. How people go mad over cruelty to horses or cats or monkeys, and yet 115,000 men are killed here in one day. What can one say, think or do? It is beyond one's understanding. It is all too devilish for words.

You say you can naturally have but little comprehension. I guess no man here comprehends it. They may form a guess as to what is going on in their fields or woods. Not one one-hundredth or one one-thousandth gets into the press and a lot of that is only newspaper talk for political or strategical purposes.

Here we can only do that which comes to our hands and try to do it well. We all work hard and often get very tired and hungry, for we are living, moving and being on the two francs a day, but we are bound to get our patients well.

Our nurses do odd laundry in spare time to save money; they cook all the delicate dietary things with milk and proteid; they sew and patch up the poor old soldiers' torn and half rotten clothes, and they cheer the patients wonderfully.

The men are as brave as lions and all want to go back to the front. We have boys of seventeen and men of forty-eight, the latter with big families.

The work here is not nearly so exhausting as what I had at Antwerp, Malines and Furnes. We were so often under shell fire there that one hardly realized whether one was in this world or not. Anyway there was a feeling that the next bomb or shell might not leave a trace of you, but as a matter of fact work was done on the heartfelt supposition that the next bomb would fall in the next street or anywhere but just where you were working.

The shriek of those shells is something very weird and fascinating, but we never worried as long as there were wounded to attend to, and we got so tired at night when we got to bed that there was nothing further but oblivion.

On the fifth of September I shall have been one year out at work. My wife is very good to let me do it. Of course she is suffering, but actually bids me to keep on at work. She is very brave, but then we have four nephews all officers at the front, and one other nephew was Lieut. Campbell who was blown to bits while commanding Battery L Royal Field Artillery at the retreat of Mons, and I have a brother-in-law who enlisted in the Sportsman's Battalion as a private, and he is to get his commission very soon.

Every week our little band here finds that another of our friends is killed.

I want you especially to convey to the members of the I.H.A. how grateful I am for their grand donation. I will try to keep strict account and submit same if I live or do not have to vacate this hospital and leave everything as we have had to do before.

In Antwerp the first bomb that came into town fell near our hospital; at midnight a second. Our first thought was to get the wounded into the cellars, though had we been hit we should never have known it as we should all have been made in to raspberry jam either by the shell or the bricks, and I fancy the shell would have been preferable.

Doctor — of Boston sent me fifty dollars a short time ago and that enabled me to get some things which we certainly should never have been able to get from Red Cross Funds.

You see I have worked a year for no money and besides having some expenses our income is one-quarter what it was before the war and I have six children. Consequently I cannot afford to buy the things now for the wounded that I could have done one or two years ago.

With best fraternal greetings and heartfelt thanks, remember me to all.

Sincerely,

E. Petrie Hoyle.

## THE DE-NARCOTIZATION OF TOBACCO

In the issue of the *Journal* for August 19, we commented editorially on the possibility of the de-alcoholization of beverages as a preventive of inebriety. It now appears that a similar project is in operation for the de-narcotization of tobacco by the removal of its nicotine to such an extent as to make it practically non-toxic without destroying its flavor or pleasant properties upon consumption. The experiments to this end have been performed during the past three years at the United States Agricultural Station in Landisville, Pennsylvania. Instead of removing the nicotine from the grown leaf, however, the method adopted is a process of cultural selection. Three years ago a number of tobacco stocks were analyzed and found to have an average nicotine content of 3.5%. The seed from the plant having the lowest content was selected and this process repeated each year. Already the nicotine content has by this means been reduced to 1.3% and it seems conceivably possible by a continuation of the process to produce a strain of tobacco which should be practically free from nicotine and, therefore, non-toxic and harmless.

If this supposition be true, it would appear that the de-narcotization of tobacco may be as practicable a possibility as the de-alcoholization of vinous beverages, — processes, which, if really feasible, should make unnecessary reforms without which the higher progress of mankind could hardly be attained. — *From Boston Medical and Surgical Journal.*

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## SOCIETIES

### Boston District of the Massachusetts Homœopathic Medical Society

The regular monthly meeting of the Boston District of the Massachusetts Homœopathic Medical Society was held on Thursday evening, November 4, at 8 o'clock, in the lecture hall of the Evans Memorial. The attendance was small, but those who were present were well repaid by hearing the paper read by Dr. Clarence Bartlett of Philadelphia on "Pure Phenol as an Internal Remedy, and Its Efficient Dosage." Dr. Bartlett brought out points which seemed to open up new fields in some departments of internal medicine.

Dr. David L. Belding was elected to full membership in the Society, and the names of Dr. Mary T. V. Moore and Dr. Harry Watts were proposed, to be acted on at the next meeting.

A nominating committee consisting of Drs. Chas. T. Howard, Stephen H. Blodgett and Orville R. Chadwell was appointed, to report at the December meeting of the Society with nominations for the coming (1916) year.

Drs. J. P. Sutherland and Howard P. Bellows were appointed a committee to draft resolutions on the death of Dr. Edward P. Colby, which occurred on November 1.

After the meeting, some of the members adjourned to the Boston Art Club to meet Dr. Clarence Bartlett socially.

Harold E. Diehl, M.D.,  
*Recording Secretary.*

**PERSONAL AND GENERAL ITEMS**

Dr. Wesley T. Lee has removed his office from Somerville to 220 Clarendon St., Boston, and his residence to 126 Babcock St., Brookline.

Dr. J. Arnold Rockwell of Cambridge has opened an office at the Charlesgate, Boston; office hours 12 to 1 daily except Sundays.

Dr. Harriet L. Palmer, B.U.S.M. 1907, has removed from Winthrop to 21 Walker St., West Somerville.

Dr. Lillian Moore Lawford, class of 1911 B.U.S.M., has opened an office at 612 Dudley St., Roxbury.

Drs. Ralph H. Hopkins and Demetrius P. Mocas, of the 1915 graduating class of B.U.S.M., have registered for the Fifth Year course, looking to the degree M.D. cum laude. They are both to serve internships of one year at the Massachusetts Homœopathic Hospital, for which a credit of 400 hours is allowed. Dr. Paul P. Balcom of the same class has also registered for the course.

Dr. Esther K. Solakian, class of 1904 B.U.S.M., has located at 592 Tremont St., Boston.

Dr. Wm. L. Soule, class of 1896 B.U.S.M., who for some years was in Australia, is located at 411 Manhattan Avenue, New York City.

WANTED. — Head nurse for small sanitarium near Boston. Apply, stating age and experience, care Mrs. Knowles, Boston Univ. School of Medicine, 80 East Concord St., Boston.

Dr. Waldo W. Walker, Univ. of Iowa, Homœo. Dept., has located at Curtis St., West Somerville, Mass.

Dr. William J. Taylor, B.U.S.M. 1915, has located at 559 Broadway, Everett, Mass.

Dr. George H. Coffin, B.U.S.M. 1903, is night admitting physician at the Massachusetts Homœopathic Hospital.

Dr. Frank E. Allard has removed his residence from Boston to Summit Avenue, Wellesley, but retains his office in Warren Chambers, Boston, as well as his connection with the Boston Mutual Life Insurance Company.

Dr. T. J. O'Sullivan, having completed his service at Trull Hospital, has located at 316 Congress St., Portland, Maine.

Dr. Emma A. Kalbfleisch, B.U.S.M. 1887, has removed from Bridgeport, Connecticut, to 52 Brattle St., Cambridge, Mass.

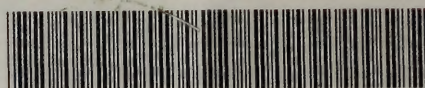
WANTED, by December 1st or as early after that date as possible, a resident physician for the West Jersey Homœopathic Dispensary and Hospital, Camden, New Jersey. Salary, board and uniforms supplied. Apply to Dr. Ralston S. Hirst, Superintendent.

Dr. Clyde Bartlett (B.U.S.M. 1915), has opened an office at Marion, Massachusetts.





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